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Railway Age

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The Need for Rebuilding and Re-equipping

THE railroads have never gone through a period of five years when they bought so little new equipment, and in which so many changes in the equipment offered to them were made, as during the last five years. The prolonged lack of buying, the changes in transportation, competitive conditions and the development of new kinds of equipment and materials have made a vastly larger part of railway facilities obsolete than ever was before . . . The railroads must be largely rebuilt and re-equipped, and this rebuilding and re-equipping must be done in such ways as to enable them, not only as in the past, to handle satisfactorily passenger and freight business that will come to them naturally, but also as to stop losses to other carriers and begin recovering traffic from them.

An Excerpt from the Editorial in the Annual Statistical Number of the Railway Age, January 4, 1936

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NEW YORK CHICAGO ST. LOUIS

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Vol. 100 January 11, 1936 No. 2

In This Issue

Almost Six Hundred Million Dollars for Supplies in 1935.....Page 106

Compilation by *Railway Age* which shows that last year's purchases of fuel and materials were within five per cent of 1934 and that buying has been heavier since Fall.

Chesapeake & Ohio Receives High-Power Passenger Locomotives.. 111

A description of these 4-8-4 type locomotives built by the Lima Locomotive Works for service on heavy mountain grades.

I. C. C. Annual Report..... 115

An abstract of this document, which includes some recommendations for legislation, leaving others to await Co-ordinator Eastman's report.

EDITORIALS

Railroad Selling and Public Relations Work..... 103
Five Years of Depression on the Railways..... 105

GENERAL ARTICLES

Almost Six Hundred Million Dollars for Supplies in 1935..... 106
Goodrich Develops "Rubberized" Tie Plate..... 110
Hiawatha Net Earnings $2.25 Per Mile..... 110
Chesapeake & Ohio Receives High-Power Passenger Locomotives..... 111
Tests with New Preservative..... 112
Railroads Contest Pension Act..... 113
I. C. C. Annual Report..... 115
Freight Car Loading..... 120
Scheer Elected President of Reading and Central of New Jersey..... 121
Develops Two New Designs for Tie Plates..... 122

COMMUNICATIONS 122

NEWS 123

REVENUES AND EXPENSES OF RAILWAYS..... 132

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

WHY THE TREND TOWARD ALLOY STEEL STAYBOLTS?

What with expansion and contraction of the firebox, not to mention the motion between the sheets, the staybolt job is tough for any material. » » » Fatigue resistance is of prime importance, and here staybolts of Agathon Alloy Steel are supreme since they have the highest fatigue resistance of any staybolt material. » » » Since Agathon Alloy Steel is less affected by heating and forging temperatures it drives up solidly and stays in place longer. The alloy materials keep grain size small and prevent embrittlement at the neck of the bolt—often a weak spot. These advantages of Agathon Alloy Steel staybolts explain why more and more railroads are standardizing on this superior staybolt material. » » »

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RAILWAY AGE

Railroad Selling and Public Relations Work

There is probably more talk among business men at present about what is called "public relations work" than ever before. While the phrase is often used, there are differences about what it means. Public relations work is a necessary part of selling, although often not so considered. There is an unusual amount of talk about it now because during a depression selling is unusually hard to do. It is unusually hard to do then because the purchasing power, and willingness to purchase, of both business and individuals are curtailed, resulting in a reduction of the effective demand for most commodities and services. Also, in a period of depression, there always is, as at present, much public sentiment against business which politicians stimulate in behalf of legislation tending further to curtail buying power and to discourage buying.

The principal problem of every concern, of every industry and of business in general, is always that of maintaining and enlarging its markets, although it is not always recognized as such. Prices and rate policies are often adopted by concerns and industries in periods of both prosperity and depression the purpose of which is to increase or maintain profits, in disregard of their tendency to curtail buying. Adoption of such policies in periods of prosperity tends to produce depressions by reducing the demand for commodities and services, and, thereby, decreasing the volume of their production. Continuance or adoption of them during periods of depressions tends to protract depressions for the same reason.

Producing What Can Be Sold

Selling is a much more important and broader function of business management than public relations work; but public relations work is a much more important and broader function of selling than most business men realize. To be successfully carried on both must start at the top of every business organization, and be directly and indirectly carried on by every department, officer and employee. The first requisite of selling is the production of something that can be sold. In order to insure that the thing produced can be sold it is necessary that the officers and departments especially charged with selling shall represent its customers and potential customers to the management of a company as well as the company to its customers.

Any concern or industry the officers of which that deal with its customers and prospective customers have not the ability to determine accurately what the public wants and will pay, and enough influence with their management or managements to get them to provide commodities or services that the public wants, at prices or rates satisfactory to it, is doomed to failure. If the public will not buy what is offered at the prices or rates asked, there is plainly something wrong with the thing being produced, or the selling methods used, or the prices or rates asked.

"Servicing" Present Passenger Customers

The persons to begin with in sales or public relations work are the customers that a concern or industry already has. A satisfied customer is the best advertisement. The railways sell their service to both travelers and shippers. Their "servicing" of a passenger begins with the sale of his ticket, continues throughout his journey, and is finished only when he leaves the station at his destination. Whether he will be satisfied or not will depend upon the rate charged, the comfort and speed of the train and whether it is on time—matters mainly determined by the management. But it will depend also upon the way he is treated at the ticket window, on the train, in the dining car and at both ends of his trip by employees.

There is a good deal of difference between the way in which travelers are treated by the employees of different railroads. Their behavior may be regarded as a problem of personnel or of public relations, but it is, in fact, a problem of both the production of service and of the selling of it. The labor unions often interfere when, perhaps because of complaint from the passenger department, the operating department tries to discipline or discharge an employee for discourtesy or inattention to a passenger. But the railways greatly need more passengers. It is as much to the interest of employees in general as of the railroads to get them, for the number of employees the railways can pay is determined, under existing rates and wages, by the amount of traffic they can get. No hotel would long keep

an employee who offended guests. Passengers should be treated by employees as guests of the railroad; and any who have not good enough manners to do so should be improved, transferred or dismissed, regardless of labor union interference.

Big Shippers and Small Shippers

It has been estimated that 47 per cent of the freight business of the railways is furnished by about 5,000, or 2 per cent, of the shippers; 23 per cent by about 11,000, or 5 per cent of them; and 30 per cent by about 200,000, or 93 per cent of them. The 7 per cent who furnish 70 per cent of the business receive much attention and solicitation from the traffic departments. The 93 per cent who furnish the other approximately one-third of the business are very important. Their business yielded earnings of about $1,600,000,000 in 1929 and of almost $900,000,000 even in 1934; but they are given much less attention and solicitation. They have their dealings principally with employees.

It would be interesting to know how large a proportion of the freight business of the small shippers the railways have lost to the trucks, as compared with the proportion of the freight business of their large customers that they have lost.

Probably within recent years the truckers have devoted relatively much more attention and solicitation to the small shippers than the railways have, and, in consequence, the railroads' loss of business from the small shippers has been relatively much larger than from the big shippers. Should not the railways make greater efforts than they are making to hold the small shippers? This presents a big problem of better training and greater stimulation of many local agents in the art of selling, which includes the establishing of better relations between the railroads and the public, especially in towns and rural communities.

Advertising for Additional Passengers

While there is a great problem of satisfying and holding the customers that the railroads still have, there is the equally great or greater problem of getting more customers. This is especially true as regards patrons of their passenger service, of whom they lost two-thirds between 1923 and 1933. In order to get more passengers they must render speedier, more frequent and cheaper service; but there are too many potential customers for a relatively large part of them to be recovered by solicitation. A successful merchant gives his customers satisfactory service and prices after he gets them in the store; but he has to get them there first, and the principal means he uses for this purpose is advertising. If the railways are to recover a large part of their passenger business with improved service and reduced rates, they must inform the public about them, and there is no way to inform enough of the public excepting by advertising.

Most advertising can be done most effectively by individual lines; but there is much of it that could be done most effectively by the railways jointly. They can most effectively advertise general reductions of rates jointly. They can most effectively advertise such improvements in service as air-conditioning jointly. They could effectively advertise the superior safety of railway service individually, but the reasons why they should advertise it jointly are as obvious as the reasons why they should advertise it much more than they do. In spite of daily reports of hundreds of persons being killed and thousands being injured daily upon the highways, the public does not appreciate the much greater safety of travel by rail enough because it has never been emphasized enough in advertising. Most persons may care more for their lives and limbs than now appears to be true, and more passengers might be recovered by contrasting the safety of travel by rail and by other means in advertising than is now believed.

Should Freight Service Be Advertised?

Freight traffic and revenues, actual and potential, are much larger than passenger traffic and revenues, and there is consequently greater need for getting more customers for the freight service and getting them to use it oftener. It may or may not be true, as we suspect, that the railways have lost relatively more of the freight of the 93 per cent of the shippers that furnish about one-third of the traffic than of the freight of the 7 per cent that furnish two-thirds of it, but obviously the problem of so reaching and influencing them as to get them to ship more by rail is a more difficult one. They present, because they are numerous and located in communities throughout the country, not only an important traffic problem, but also an important public relations problem. They cannot only ship their freight by any means they like, but, according to whether they are or are not satisfied with railway management and service, they can create much sentiment favorable or unfavorable to the railways.

There has been a good deal of discussion as to whether the railways should advertise their freight service and its advantages as respects speed, dependability, responsibility of the carrier, rates and otherwise. Is there any way, without the aid of advertising, to reach and influence the 93 per cent of the shippers who furnish one-third of the freight? The revenues derived from their business were almost twice as large in 1929 and two and one-half times as large in 1934 as the total revenues derived from passenger business. It seems very doubtful if the suggestion that railways should advertise their freight service through mediums that would reach most of the shippers should be dismissed without careful consideration. Many shippers may not appreciate the advantages of using railway service any more than most potential passengers do.

Dealing with Public Sentiment

It is difficult to differentiate between some problems of selling and of public relations, because the establishment and maintenance of good contacts and relations

with a large part of the public is an essential part of effective selling. But there is a kind of public relations work which is clearly differentiated from what is ordinarily called "selling." Many concerns and industries are trying to avoid government-subsidized competition with them and government dictation of the way in which they shall treat their customers and employees as respects service, prices, working conditions and wages. The railways are subject already to all these government influences. Many other concerns and industries are trying to avoid unionization of their employees and the consequent interference of labor leaders with efficient and economical management. The employees of the railways already are unionized, and efficiency and economy of operation are correspondingly difficult to attain and maintain.

Without an understanding and friendly public sentiment the broad problem with which railway managements are confronted, of meeting outside competition and of improving and cheapening their service, cannot be solved under private ownership. There is no way to create and maintain the public sentiment necessary but that of constantly presenting to the public through the available channels of communication the facts regarding the present and prospective situation of the railways, the policies of government and management necessary to the improvement of that situation, and the reasons why it is to the interest of the public to help secure adoption of these policies.

Only One Solution—Largely Increased Net Operating Income

The vital need of the railways is a large increase in net operating income. There is no other solution of their problem under private ownership. This can be secured only by increasing traffic, or by reducing operating expenses, or by both. Their traffic can be increased by improvement of general business and recovery of passengers and freight that have been lost to competitors. Their operating expenses can be reduced by increases in efficiency of operation, by reduction of prices and wages, or by both. A large increase in net operating income is required to enable them to meet their present financial obligations and to raise the new capital needed to enable them to improve their service and reduce their unit operating costs. Adequate expenditures to improve their service and reduce their unit operating costs will afford increased business and employment in the manufacturing industry.

To every student of the subject it is plainly in the interest of the public for it to co-operate in solving the railroad problem. But the public is concerned about many things. The great task of railroad public relations work is to make the public understand and realize its stake in the railroad problem and to get it to effectively support policies essential to its solution. This is the most important task of "selling" the railroads will have to do. It never has been well done. Unless it is much better done in future, all their other selling efforts may prove futile.

Five Years of Depression on the Railways

The statistics in the accompanying table strikingly portray the effects of five years of depression upon the railways. The figures in column I are annual averages for the five years 1926-1930, inclusive. The figures in the second column are annual averages for the five years 1931-1935, inclusive. The year 1930 was really one of depression, but it is included in the first five-year period because in 1930 the railways largely maintained their expenditures at the request of the Hoover administration.

Average annual gross earnings declined 43.3 per cent. By means of the most drastic retrenchments in all history, average annual operating expenses were reduced almost 42 per cent. There is, no doubt, a general impression that railway employees suffered most from these retrenchments. The figures show that this was not true. The average number of employees declined almost 38 per cent and their average annual compensation about 42 per cent. Return earned upon capital declined much more. Net operating income—the amount of earnings left after paying operating expenses and taxes—declined 59 per cent. This completely wiped out "net income," which is what is left after paying interest, and is available, when any is earned, for paying dividends. Net income in the five years 1926-1930, inclusive, averaged almost $738,000,000 annually, and in the five years 1931-1935 averaged $8,438,365 less than nothing at all.

Effects on the Railways of Five Years of Depression

	Column 1 Annual average Five-years 1926-30	Column 2 Annual average Five years 1931-35	Column 3 Per cent decline
Revenue ton-miles	427,233,956,697	268,427,115,085	37.2
Revenue passenger-miles	31,723,506,314	18,327,856,702	42.2
Gross earnings	$6,038,338,548	$3,424,414,825	43.3
Operating expenses	$4,421,698,908	$2,578,614,811	41.7
Net operating income	$1,114,903,254	$457,774,770	58.9
Net income	$737,898,336	(Def.)$8,438,365	(*)
Number of employees	1,663,896	1,052,864	36.7
Wages	$2,826,048,509	$1,632,200,617	42.2
Purchases—materials and fuel	$1,318,867,000	$566,215,000	57.1
Capital expenditures	$811,926,000	$214,153,000	73.6
Freight cars ordered	71,148	12,499	82.4
Locomotives ordered	858	99	88.5
Passenger cars ordered	1,676	101	94.0

(*) Average deficit in 1931-1935.

The effects produced upon improvements and purchases of materials, fuel and equipment were terrific. Purchases of materials and fuel declined 57 per cent. Capital expenditures for improvements declined almost 74 per cent. The number of freight cars ordered declined 82.4 per cent, of locomotives ordered 88.5 per cent and of passenger cars ordered 94 per cent.

The figures indicate graphically not only how terribly the railways have suffered during the depression, but also the enormous problem of rehabilitation with which they will be confronted when increased gross and net earnings make possible the beginning of rehabilitation.

Almost Six Hundred Million Dollars for Supplies in 1935

Purchases of fuel and materials within five per cent of 1934—Heavier buying since Fall—Stocks lower

THE magnitude of railway buying and its effect on general business are again reflected by the expenditures of the carriers for supplies during the year just ended. While summaries at this time are necessarily preliminary, figures for 10 months have been obtained from 92 per cent of the mileage, also some figures for November and December, from which it is estimated that the fuel and supplies purchased by all railroads of the United States in 1935 amounted to approximately $595,000,000. This is the delivered value of materials which the railroads themselves bought and received for operating, maintaining, and improving their properties and includes materials obtained for the purpose of repairing and building locomotives and cars in railroad shops. It does not include expenditures for new locomotives and cars purchased from builders or construction materials furnished by contractors. Neither does it include the value of unfilled orders.

Materials and Supplies Purchased—1935*

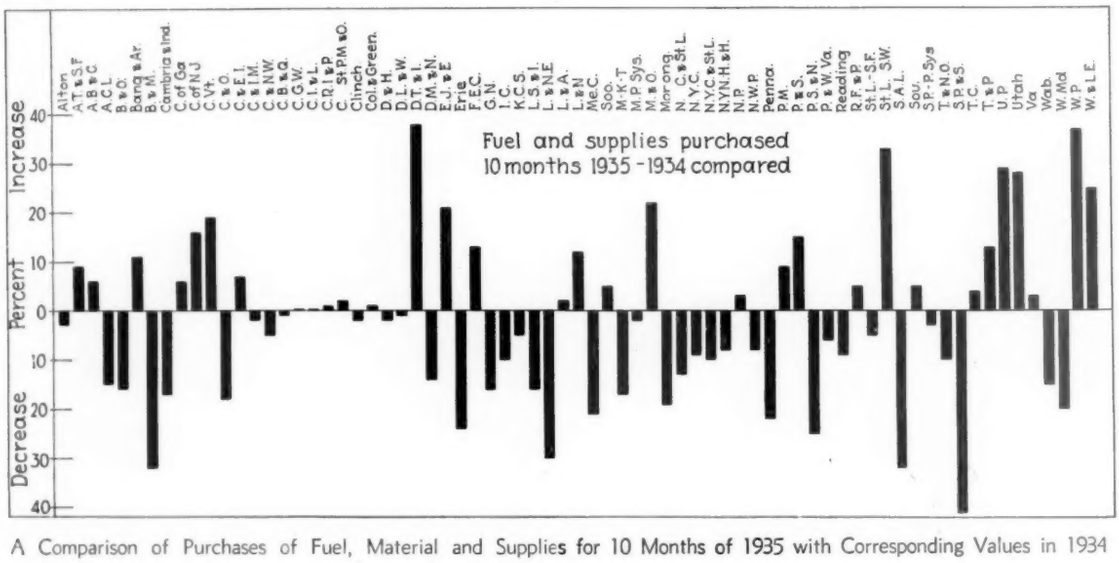
	Fuel (000)	Cross Ties (000)	Rail (000)	Other Material (000)	Total (000)	Total Less Fuel (000)
January	$20,800	$2,080	$965	$21,605	$45,450	$24,650
February	21,050	2,300	1,540	21,310	46,200	25,150
March	25,500	3,240	1,590	26,420	56,750	31,250
April	18,000	4,060	1,780	29,360	53,200	35,200
May	18,400	3,440	2,140	27,220	51,200	32,800
June	21,050	3,200	1,700	26,800	52,750	31,700
July	15,850	3,420	2,120	26,610	48,000	32,150
August	15,560	3,100	1,060	26,280	46,000	30,440
September	15,610	2,650	1,230	25,510	45,000	29,390
October	17,600	2,420	1,200	29,280	50,500	32,900
November	19,300	1,880	1,060	28,260	50,500	31,200
December	20,000	1,500	1,000	26,500	49,000	29,000
	$228,720	$33,290	$17,385	$315,155	$594,550	$365,830

* Subject to revision.

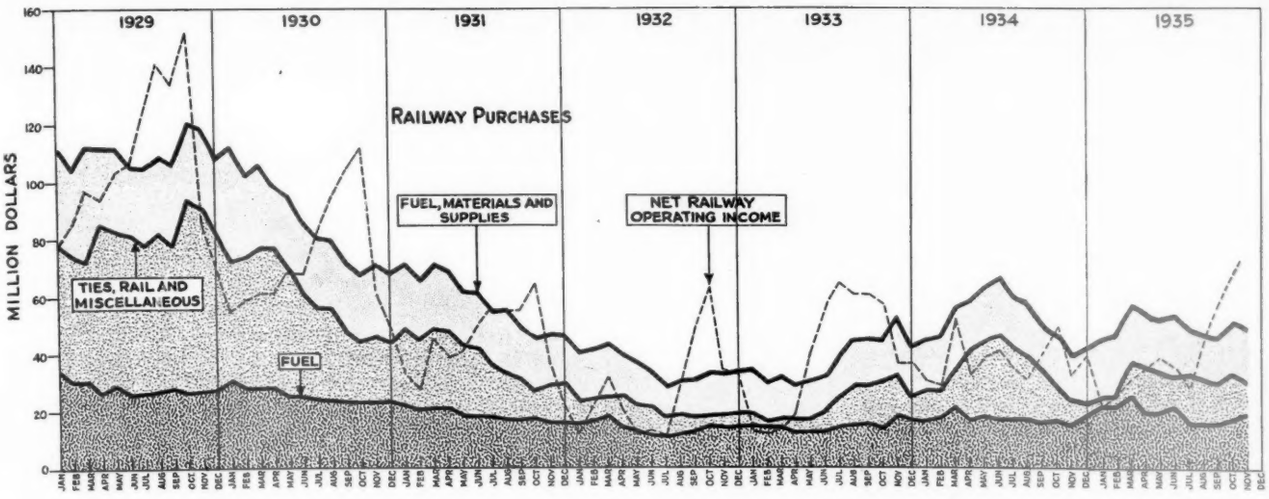
The total is $30,000,000, or five per cent, below the *Railway Age* figure for all roads in 1934, although $50,000,000 above 1933 and $150,000,000 above 1932. Subject to revision, the total includes approximately $228,000,000 for coal and fuel oil, compared with $220,000,000 in 1934; about $33,290,000 for ties, compared with $39,700,000 in 1934; about $17,385,000 for rail, compared with $33,000,000 in 1934; and $315,000,000 for repair parts and other materials, compared with $332,000,000 in 1934. The value of new locomotives and cars ordered last year is around $52,000,000, as compared with $92,000,000 in 1934. Counting this equipment and also rail ordered too late for delivery in the calendar year, purchases of supplies and equipment from manufacturers are estimated to have amounted to approximately $420,000,000 in 1935, as compared with $492,000,000 in 1934.

165 Million for Iron and Steel

Subdividing purchases further, on the basis of the detailed purchases of 19 railroads in January, June and October, the railroads received from manufacturers approximately $22,600,000 of wheels, tires and axles; $2,350,000 of track fastenings, frogs and switches; $10,250,000 of bar steel; $2,580,000 of boiler steel; $4,650,000 of car and locomotive forgings; $9,350,000 of boiler tubes and superheater equipment; $11,650,000 of telegraph and telephone, interlocking, and signal material; $8,250,000 of bolts, rivets, etc.; $2,180,000 of locomotive and car springs; $23,000,000 of locomotive and car castings; $4,500,000 of pipe and fittings; and approximately $12,000,000 of air brake material and locomotive appliances; a total of $165,000,000 of iron and steel products. They also bought approximately $7,500,000 of cement, brick, and similar building materials for other than contract work; $14,000,000 of il-



A Comparison of Purchases of Fuel, Material and Supplies for 10 Months of 1935 with Corresponding Values in 1934



Trend of Combined Expenditures of Railroads for Fuel and Material and Supplies, January, 1929, to November, 1935

luminating oils, lubricants and other oil house materials; $21,000,000 of copper and brass products and other soft metals; $13,000,000 of electrical material; and approximately $18,000,000 of paint supplies and chemicals, including timber preservatives. The purchases were divided last year; approximately $125,000,000 for maintenance of way and $160,000,000 for maintenance of equipment.

With the exception of fuel and other supplies required for the operation of trains, railway buying did not increase proportionately as much as the purchases of other large consumers, nor as much as might have been expected from the increases registered in manufacturing activity. During no month last year was railway buying in the aggregate as large as in the months of heaviest buying in 1934, and the trend was downward until October.

A distinction between the two years lies in the fact that buying was financed more largely with government loans in 1934 than in 1935 and more largely out of earnings in 1935 than in 1934. The importance of this in drawing comparisons is that purchases last year consisted more largely of buying which could be paid for as the material was received than in 1934 when many railroads went into debt to buy necessary material.

Increases on 36 Roads

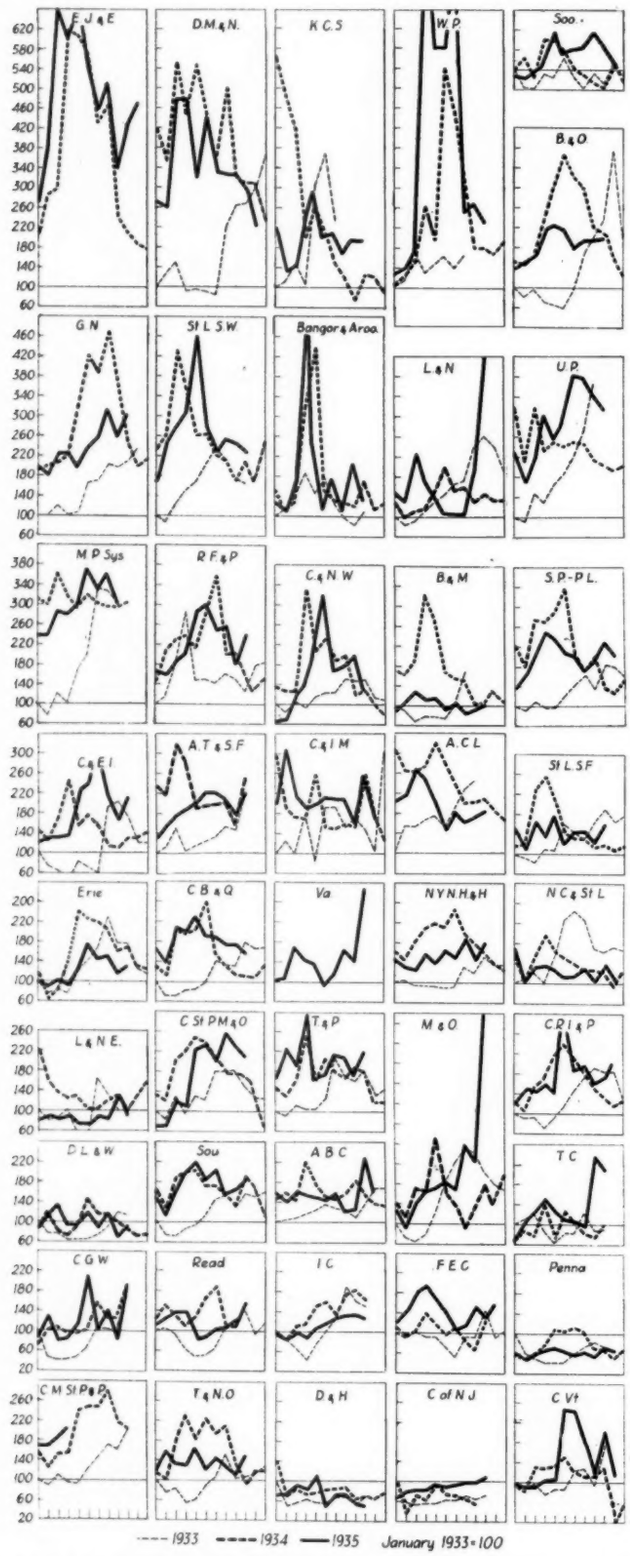
Notwithstanding this aspect of the situation, there were 36 railroads of 75 for which comparable figures are available whose purchases of supplies during the

Purchases of Fuel and Supplies—10 Months

	1932	1933	1934	1935
Alton	$1,921,135	$1,605,601	$3,503,056	$3,385,789
Alton & Southern	.....	.....	.....	160,464
Ann Arbor	.....	.....	.....	723,688
A. T. & S. F. Lines	16,192,763	14,616,585	20,097,692	21,895,717
Atlanta, Birm. & Coast	.....	.....	589,276	626,987
Atlantic Coast Line	.....	4,857,590	7,382,487	6,262,368
Baltimore & Ohio	8,967,617	9,303,569	19,804,459	16,587,242
Bangor & Aroostook	1,019,327	793,396	1,077,172	1,195,147
Bingham & Garfield	.....	.....	.....	127,562
Boston & Maine	6,071,917	5,051,649	8,616,378	5,825,203
Cambria & Indiana	.....	.....	116,344	96,614
Central of Georgia	1,268,752	1,834,028	2,411,128	2,549,217
Central of New Jersey	3,614,654	3,233,832	3,345,610*	3,908,351*
Central Vermont	934,138	971,323	1,040,138	1,241,232
Charleston & W. Carolina	.....	.....	357,001	370,809
Chesapeake & Ohio	6,640,337	8,059,219*	12,226,682	10,080,126
Chicago & Eastern Ill.	1,369,215	1,413,399	1,895,878	2,038,254
Chicago & Ill. Midland	250,109	340,330	429,204	421,280
Chicago & North Western	9,795,332	9,881,890	13,833,006	13,068,727
Chi., Burlington & Quincy	8,818,743	8,975,310	13,033,797	12,942,055
Chicago Great Western	2,518,144	2,492,427	2,889,426	2,889,466
Chicago, Ind. & Louisville	.....	875,255	878,868	874,288
Chi., Mil., St. P. & Pac.	12,742,668	10,172,649	14,400,668	.....
Chi., R. I. & Pac. Lines	7,951,404	7,517,041	10,378,771	10,534,559
Chi. St. P., Minn. & Om.	2,488,585	2,372,383	2,927,072	3,000,064
Clinchfield	493,130	497,152	830,368	811,175
Colorado & Southern	.....	.....	.....	1,066,157
Columbus & Greenville	129,785	123,337	179,200	181,862
Delaware & Hudson	4,349,599	3,590,861	4,430,453	4,302,290
Denv. & Rio Grande Wesn.	.....	.....	.....	3,785,291
Del., Lack. & Western	5,714,569	5,332,293	6,290,374	6,277,745
Det., Toledo & Ironton	305,338	332,602	629,246	869,866
Dul., Missabe & Northern	468,605	803,544	1,464,742	1,259,416
Duluth, S. S. & Atlantic	.....	223,938	351,341	391,982
Elgin, Joliet & Eastern	665,287	1,258,993	1,144,,419	1,393,884
Erie	10,510,920	9,007,066	12,654,323	9,676,363
Florida East Coast	747,022	914,061	1,145,499	1,291,772
Fort Smith & Western	.....	.....	113,423	79,685
Ft. Worth & Denver City	.....	.....	.....	951,677
Georgia & Florida	.....	.....	.....	286,020
Great Northern	8,513,199	6,786,193	12,792,451	10,724,354
Gulf, Mobile & Northern	.....	.....	.....	892,726
Illinois Central	11,632,817	11,875,669	15,706,612	14,063,042
Kansas City Southern	1,168,131	1,050,478	1,375,738	1,291,123
Kansas City Terminal	.....	.....	.....	588,429
Lake Sup. & Ishpeming	27,907	139,190	204,921	172,614
Lehigh & New England	319,042*	424,817	606,012	425,609
Lehigh Valley	.....	.....	.....	$6,881,567
Louisiana & Arkansas	$343,825	$395,149	$808,636	828,520*
Louisville & Nashville	7,376,919	7,355,182	8,534,151	9,646,956
Maine Central	.....	1,381,437	2,526,714	2,010,168
Minn., St. P. & S. S. Marie	3,543,149	3,003,433	3,785,202	3,969,019
Missouri & Arkansas	.....	.....	.....	129,210
Missouri-Kansas-Texas	2,256,255	2,373,883	4,172,371*	3,474,247
Missouri Pacific	8,912,002	11,990,507*	17,397,134	17,041,347
Mobile & Ohio	1,006,109	1,117,209	1,279,764	1,560,858
Monongahela	.....	.....	331,213	267,049
Nashville, Chat. & St. Louis	1,607,667	2,240,786	2,227,203	1,935,823
Nevada Northern	.....	.....	.....	93,746*
New York Central Sys.	31,020,187	37,937,263	48,448,461	44,243,136
N. Y., Chi. & St. Louis	4,103,530	3,289,977*	4,637,651	4,158,896
N. Y., New Hav. & Hart.	5,291,401	4,867,842	8,837,178	8,818,590
N. Y., Ont. & Western	.....	.....	.....	1,294,297
Northern Pacific	7,306,353	6,359,684	8,866,437	9,118,646
Northwestern Pacific	325,414	255,052	301,872	275,830
Norfolk Southern	.....	.....	.....	897,391
Penna. and Long Island	33,450,150*	34,091,189	48,478,663	37,992,095
Penna.-Reading S. S. Lines	.....	.....	.....	329,335
Peoria & Pekin Union	.....	.....	.....	263,021
Pere Marquette	1,994,471	3,197,781*	3,924,077	4,296,807
Pittsburg & Shawmut	.....	98,523	89,040	103,956
Pittsburgh, Shawmut & Northern	135,144	115,915	189,430	142,667
Pittsburgh & W. Virginia	147,452	56,945	302,028	286,316
Reading	5,905,344	4,800,598	6,757,279*	6,199,198
Richmond, Fred. & Potom.	.....	964,674	1,222,969	1,287,094
St. Louis-San Francisco	4,673,228	7,009,754	8,530,505	8,103,708
St. Louis Southwestern	1,091,708*	831,037	1,173,140	1,567,229
Seaboard Air Line	4,229,534	.....	8,183,972	5,553,516
Southern	11,219,887	9,076,863	13,872,296	14,554,385
Southern Pac.-Pac. Sys.	11,086,703	9,031,881	16,444,226	15,889,171
Southern Pac.-Tex. & La.	3,054,755	2,618,936	4,780,364	4,261,246
Spokane, Port. & Seattle	607,490	598,317	1,604,238*	938,004
Tennessee Central	200,386	276,909	333,918	348,071
Terminal of St. Louis	.....	.....	.....	981,254
Texas & Pacific	2,068,934	2,060,302	3,074,173	3,455,271
Union Pacific	15,595,114	17,570,361*	19,770,145	25,276,796
Utah	.....	.....	70,325	90,795
Virginian	.....	.....	1,297,466	1,326,117
Wabash	4,289,336	3,987,973	6,283,656	5,296,722
Western Maryland	.....	1,708,933	3,007,533	2,414,218
Western Pacific	1,498,946	1,607,640*	2,270,000	3,120,950
Wheeling & Lake Erie	620,099	1,185,117	2,054,836	2,549,796
Wichita Falls & Southern	.....	.....	.....	47,075

* October estimated.

ten months ended October 31 last year were equal to or greater than the corresponding purchases in 1934. The increase was $800,000, or 9 per cent, on the Santa Fe; $120,000, or 11 per cent, on the Bangor & Aroostock; $140,000, or 6 per cent, on the Central of Georgia; $553,000, or 16 per cent, on the Central of New Jersey; $200,000, or 19 per cent, on the Central Vermont; $140,000, or 7 per cent on the Chicago & Eastern Illinois; $240,000, or 20 per cent, on the Detroit, Toledo & Ironton; $150,000, or 13 per cent, on the Erie; $1,100,000, or 12 per cent, on the Louisville & Nashville; $180,000, or 5 per cent, on the Soo; $290,000, or 22 per cent, on the Mobile & Ohio; $370,000, or 9 per cent, on the Duluth, Missabe & Northern; $390,000, or 33 per cent, on the St. Louis Southwestern; $680,000, or 5 per cent, on the Southern; $5,300,000, or 29 per cent, on the Union Pacific; $850,000, or 37 per cent, on the Western Pacific; and $500,000, or 25 per cent, on the Wheeling & Lake Erie.



Trend of Purchases Since January, 1933, Exclusive of Fuel, Rail and Ties —No Data Where Breaks Occur in Charts

It is also noted that the cause of the slight decline in total purchases last year is to be found in the lower rate of buying last summer rather than during the later months of the year. While it is too early to be exact about November and December, increases were general in October, after declines in purchasing since May, and, with some exceptions, appear to have been sustained during the last two months. Total purchases less fuel, amounting to approximately $32,900,000 in October, were larger than in any month since April, and almost 14 per cent above the expenditures in January. By contrast, purchases declined continuously during the last six months of 1934 and were smaller in December than were corresponding purchases 12 months before.

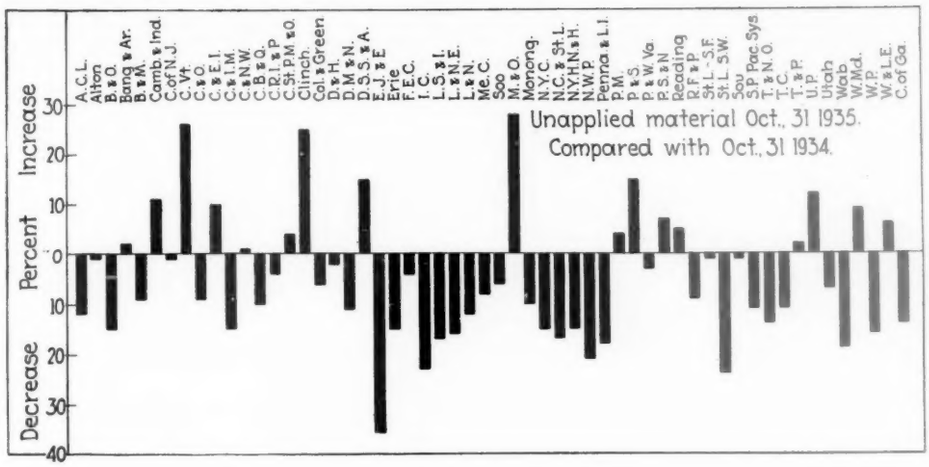
During the last three months of 1935, in contrast with the same period of 1934, several roads, following improvement in carloadings and corresponding increases in revenues, entered the market with large orders for rail and new equipment. Equipment orders during that period included 10,835 freight cars of the 18,699 cars ordered during the entire year, while the rail orders accounted for 242,890 tons of the 559,400 tons placed last year. These commitments are not accounted for as

Classified Purchases, All Roads, 1935*

	(000)
Frogs, switches, crossings and parts	$9,700
Track fastenings	11,650
Track tools and miscellaneous	4,230
Interlocking, signal, telephone and telegraph material	11,650
Brick cement, lime, stone, etc.	7,620
B & B lumber	12,320
Ties	34,380
Bridges, turntables, etc	1,980
Ballast and riprap	6,300
Rail	17,385
Fuel, water station material, etc.	2,280
Chemicals for timber treatment	4,700
Total Maintenance of Way and Structures	124,195
Bolts, nuts, washers, etc.	8,250
Springs	2,180
Flues	9,350
Tubing and soft metals	2,820
Bar iron and steel	10,250
Plate and sheet steel	2,580
Locomotive and car forgings	4,650
Locomotive and car castings	23,650
Brass castings and journal bearings	21,375
Air brake material	5,050
Locomotive appliances	6,500
Passenger car trimmings	3,900
Electrical material	10,300
Shop fuel	11,500
Foundry supplies, firebrick, clay	930
Wheels, tires and axles	22,620
Locomotive and car lumber	7,520
Machinery and tools	2,160
Boilers, fireboxes, tenders	3,320
Miscellaneous maintenance of equipment	325
Total Maintenance of Equipment	159,230
Train and station supplies	8,660
Oil house material	14,200
Icehouse supplies	4,750
Fuel for locomotives	217,220
Commissary supplies	9,800
Total Conducting Transportation	254,630
Pipe and fittings	4,420
Electrical material for buildings	2,700
Hardware	10,575
Rubber and leather	4,780
Glass, drugs, paint, etc.	13,100
Stationery and printing	13,050
Unclassified	7,870
Total Common to All Departments	56,495
Grand Total Plus Freight	594,550

* Estimated Annual Purchases Subdivided on the Basis of Reports from 19 Railroads—Subject to Revision.

Stocks of Fuel and Supplies Compared with 1934



purchases until materials are received, but they should not be overlooked in comparing last year's railway buying with that of previous years or when drawing any conclusions about the trend of buying from now on.

Stocks Lower

The book value of materials in stock on the Class I railroads on October 31, 1935, amounted to approximately $281,000,000, as compared with $310,000,000 on October 31, 1934; representing a reduction of about $30,000,000, or 10 per cent. This inventory included approximately $22,000,000 of fuel, as compared with $19,500,000 the year previous; $36,500,000 of ties, compared with $42,000,000; $36,000,000 of new and second hand rail, as compared with $39,000,000; $179,000,000 of stores stock, as compared with $202,000,000; and approximately $6,400,000 of scrap iron, as compared with $7,500,000 for the same roads on October 31, 1934. Total inventories were 5 to 25 per cent lower on 33 railroads and equal to or slightly increased on 23. Rail inventory figures were lower on 25 to 50 railroads and the same or larger on 25.

The inventory figures and the trend of buying during the last quarter of 1934, together with the general improvement in business, make it appear probable that the purchases during the present year will be substantially larger than either 1935 or 1934. The buying power of the largest consumer of the products of American industry is apparently on the mend.

Divisions of Supplies in Stock—October 31 (Estimated)

	Fuel (000)	Ties (000)	Rails (000)	Store Stock (000)	Scrap (000)	Total (000)
1933	$20,500	$50,000	$34,000	$182,500	$8,500	$295,500
1934	19,500	42,000	39,000	202,000	7,500	310,000
1935	22,100	36,500	36,000	179,000	6,400	281,000

Fuel and Materials and Supplies in Stock—Book Values on October 31

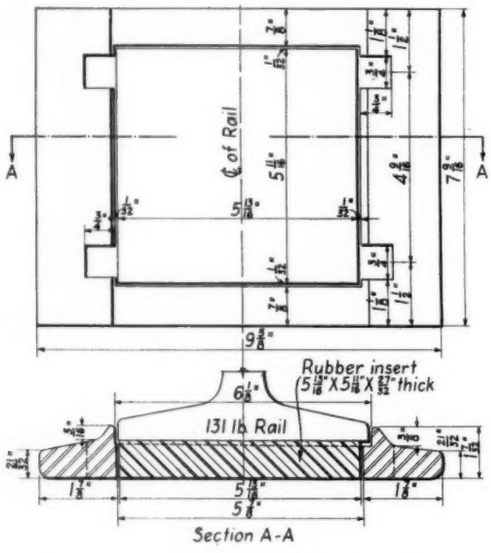
	Rail—New & S. H.		Total	
	1934	1935	1934	1935
Atlantic Coast Line	$51,812	$440,709	$3,358,013	$2,936,105
Alton	335,909	189,102	1,129,940	1,124,841
Alton & Southern	.....	4,106	.....	49,341
Ann Arbor	.....	19,265	.....	250,695
Atchison, Topeka & Santa Fe	.....	3,407,036	.....	16,993,693
Baltimore & Ohio	1,560,760	746,107	9,609,825	8,096,589
Bangor & Aroostook	99,302	84,717	844,822	865,340
Bingham & Garfield	.....	19,340	.....	76,190
Boston & Maine	743,252	629,577	5,176,957	4,719,200
Cambria & Indiana	5,418	4,003	47,551	52,984
Central of Georgia	245,032	110,708†	1,063,598	906,969†
Central of New Jersey	199,416*	139,048	1,581,713*	1,573,744
Central Vermont	89,600	44,034	458,116	579,645
Charleston & Wstn. Carolina	.....	72,519	.....	212,397
Chesapeake & Ohio	.....	.....	4,325,511	3,908,940
Chicago & Eastern Illinois	12,176	16,263	632,416	693,459
Chicago & Illinois Midland	26,639	23,117	282,890	240,966
Chicago & North Western	1,472,394	1,268,392	7,111,968	7,227,938
Chi., Burlington & Quincy	1,029,716	885,445	7,998,041	7,135,700
Chicago Great Western	.....	3,250	.....	525,259
Chicago, Ind. & Louisville	.....	68,059	.....	620,629
Chicago, Mil., St. P. & P.	1,430,472	.....	8,756,838	.....
Chicago, Rock Island & Pac.	254,751	294,880	5,278,805	5,059,332
Chicago, St. P. M. & Omaha	144,074	144,957	1,023,379	1,074,967
Clinchfield	36,655	103,855	465,567	582,075
Colorado & Southern	.....	32,149	.....	291,213
Columbus & Greenville	3,827	3,269	120,664	113,448
Delaware & Hudson	92,311	93,658	2,429,411	2,346,603
Denv. & Rio Grande Western	.....	612,766	.....	2,275,688
Detroit & Mackinac	.....	15,887	.....	178,969
Detroit, Toledo & Ironton	.....	75,039	.....	454,510
Duluth, Missabe & Northern	90,916	89,556	1,090,224	969,400
Duluth, S. S. & Atlantic	61,321	96,565	281,223	324,695
Elgin, Joliet & Eastern	77,861	41,824	996,804	630,494
Erie	514,852	415,051	3,899,272	3,331,031
Florida East Coast	80,337	102,196	1,553,179	1,492,601
Fort Smith & Western	.....	4,555	.....	163,002
Fort Worth & Denver City	.....	35,462	.....	544,729
Georgia & Florida	.....	24,838	.....	140,618
Great Northern	.....	769,403	.....	6,758,918
Illinois Central	75,587	64,622	8,338,044	6,475,222
Kansas City Terminal	.....	$3,562	.....	$138,207
Lake Superior & Ishpeming	$16,507	15,605	$241,039	200,631
Lehigh & New England	132,293	76,102	417,481	352,141
Lehigh Valley	.....	210,037	.....	2,756,760
Louisville & Nashville	1,183,755	710,801	8,951,893	7,869,031
Maine Central	166,431	157,209	1,548,065	1,424,476
Minn., St. P. & S. S. Marie	177,861	197,027	1,913,678	1,797,684
Missouri & Arkansas	.....	5,491	.....	59,787
Missouri Pacific	.....	947,669	.....	9,142,918
Mobile & Ohio	44,228	157,467	631,827	804,357
Monongahela	27,882	22,529	269,607	239,149
Nevada Northern	.....	6,400*	.....	81,266*
New York Central	.....	.....	32,416,757	27,376,027
N. Y., Chicago & St. Louis	.....	.....	1,461,249	1,210,899
N. Y., New Haven & Hartf.	1,450,817	1,347,002	6,941,546	5,928,459
New York, Ont. & Western	.....	99,662	.....	722,083
Norfolk Southern	.....	57,752	.....	337,496
Northwestern Pacific	65,377	49,781	256,222	204,926
Penna. and Long Island	3,995,900	3,408,076*	34,996,171	28,377,770*
Peoria & Pekin Union	.....	15,857	.....	111,248
Pere Marquette	.....	.....	1,281,340	1,330,439
Pittsburgh & Shawmut	14,184	17,393	87,464	100,963
Pittsburgh & West Virginia	26,856	19,230	98,292	84,917
Pitts., Shawmut & Northern	16,344	14,422	103,064	110,124
Reading	539,396*	746,504	4,856,428*	5,084,160
Richmond, Fred. & Potomac	.....	.....	827,923	753,648
St. Louis-San Francisco	507,890	506,454	4,344,083	4,294,500
St. Louis Southwestern	206,048	82,039	1,278,783	974,099
Seaboard Air Line	.....	598,351*	.....	3,540,702*
Southern	513,007	396,105	5,653,718	5,578,804
Southern Pac.—Pac. Lines	1,883,685	1,874,501	10,442,768	9,323,084
South. Pac.-Texas & La. Lines	796,647	611,168	4,508,819	3,888,499
Spokane, Portland & Seattle	.....	78,891	.....	516,961
Tennessee Central	None	None	209,920	187,714
Terminal of St. Louis	.....	45,670	.....	387,737
Texas & Pacific	88,542	226,062	2,937,360	3,038,091
Union Pacific	2,523,452	2,383,868	14,771,662	16,407,174
Utah	28,403	27,083	185,701	168,122
Virginian	.....	89,834	.....	1,469,317
Wabash	293,812	199,446	1,800,478	1,468,010
Western Maryland	.....	1,660	1,350,451	1,473,948
Western Pacific	371,953	61,463	1,991,475	1,666,393
Wheeling & Lake Erie	176,634	235,763	971,773	1,030,083
Wichita Falls & Southern	.....	13,112	.....	42,092

* September.
† November.

Goodrich Develops "Rubberized" Tie Plate

A "RUBBERIZED" tie plate, which was designed with a view to minimizing the vibration of equipment, lessening the mechanical wear of the ties, rail and equipment and reducing the noise made by the wheels of rolling stock, has been developed by the B. F. Goodrich Company, Akron, Ohio. This tie plate involves the use of both rubber and metal in such a manner that the rubber transmits the load from the rail to the tie while the metal portion holds the track to gage and acts as a housing for the rubber.

The type of plate referred to, which is known as the Osborn tie plate, consists of a double-shoulder, four-hole steel tie plate of conventional shape, except for the fact that a rectangular hole, occupying a large proportion of the space between the shoulders, is provided through the plate, in which a slab or pad of rubber is



Plan and Section of a "Rubberized" Tie Plate Designed for Use with 131-lb. Rail

inserted. The thickness of the rubber slab is about 1/16 in. greater than the depth of the tie plate; thus the rail does not come into contact with the tie plate except at the shoulders and the load on the rail is transmitted directly through the rubber to the tie. The principal functions of the steel portion of the plate are to confine the rubber in such a manner as to build up resistance against vertical deformation as the load increases and to take lateral thrust through the shoulders.

In the accompanying drawing is shown an Osborn tie plate designed for use with 131-lb. rail. With this design, the bearing area between the rail and the rubber amounts to 32.5 sq. in.; thus, with a coefficient of friction between steel and rubber of about 0.6, it is pointed out that there is little likelihood of the rail sliding on the rubber when lateral thrusts are encountered or when the rail is subjected to longitudinal forces.

In order to prevent the rubber pad from lipping over the edges of the cavity under load, the cavity is made about 1/16 in. greater in length and width than the rubber pad, thus allowing the latter to expand within the tie plate as it deflects vertically under load. Hence as the load is applied the rubber tends to fill the cavity and to build up resistance against the confining walls.

An installation of 1,000 tie plates of this type has been in service in a high-speed, heavy-traffic express track of the Chicago Rapid Transit Lines since 1931 and it is reported that the rubber is still as resilient as when installed. Four hundred of these plates have also recently been placed under 130-lb. rail in a main track of the Pennsylvania, carrying heavy traffic west of Altoona, Pa.

Hiawatha Net Earnings $2.25 Per Mile

DURING the period from May 29, 1934, the date of its inauguration, to December 31, the Hiawatha, high-speed, streamlined passenger train of the Chicago, Milwaukee, St. Paul & Pacific, carried 138,866 passengers, and during the period from June to November earned $2.25 per mile. The greatest volume of business handled in a single month was in August, when vacation travelers swelled the total to 25,003. The highest number on a single day was 1,866 revenue passengers, carried on December 24 in four sections of the train.

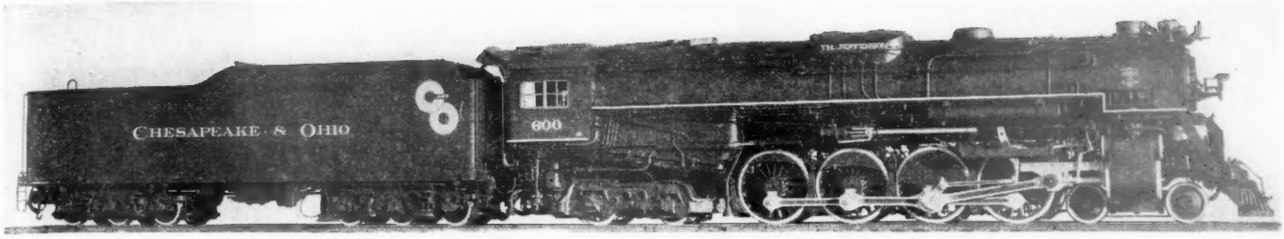
During the period from June to November, passenger earnings amounted to $538,582 and the cost of operation, including interest and depreciation on equipment, to $173,190, leaving net earnings of $365,391, as shown in the following tabulation. Earnings in August exceeded those of any other month, the gross being $116,195 and the net, $83,414.

Total Number of Revenue Passengers (Through and Intermediate) Carried May 29 to December 31, Inclusive

	No. 101 (Westbound)	No. 100 (Eastbound)	Total
May (29, 30, 31)	551	540	1,091
June	8,500	8,064	16,564
July	10,230	10,007	20,237
August	12,559	12,444	25,003
September	8,686	10,003	18,689
October	8,462	8,216	16,678
November	8,362	8,591	16,953
December	12,894	12,281	25,175
Total	70,244	70,146	140,390
Average per day	324	323	647

Revenue and Expense (Including Interest and Depreciation on Equipment) of Trains Nos. 100 and 101 for Period Shown

1935	Passenger Earnings	Cost of Operation	Net Earnings
June	$77,732.36	$25,485.00	$52,247.36
July	94,921.18	28,805.04	66,116.14
August	116,195.33	32,780.50	83,414.83
September	90,569.33	29,887.24	60,682.09
October	81,242.03	28,415.99	52,826.04
November	77,921.91	27,816.79	50,105.12
Total	$538,582.14	$173,190.56	$365,391.58
Average Per Mile			
June	$3.0597	$1.00	$2.0597
July	3.6279	0.99	2.6379
August	3.7573	1.06	2.6973
September	3.2425	1.07	2.1725
October	3.0592	1.07	1.9892
November	2.9973	1.07	1.9273
Total	$3.2906	$1.0433	$2.2473



Chesapeake & Ohio Passenger Locomotive Develops 81,000 Lb. Maximum Tractive Force

Chesapeake & Ohio Receives High-Power Passenger Locomotives

Five 4-8-4 type, built by Lima, have high-capacity boilers—For service on mountain grades

THE Chesapeake & Ohio has just taken delivery of five 4-8-4 type steam passenger locomotives from the Lima Locomotive Works, Inc., which have the most liberal boiler proportions of any locomotive of this type so far built in America. Each of the locomotives, which will be known as the Greenbrier type, Class J-3, has been named after a figure in the history of the nation sprung from the region served by the railroad. In the order of the engine numbers (600 to 604, inclusive) these names are, Th. Jefferson, Patrick Henry, Benj. Harrison, James Madison, and Ed. Randolph.

These locomotives have been placed in operation on the main line of the C. & O. in through passenger service between Hinton, W. Va., and Charlottesville, Va., a distance of 175 miles. Between these points the railroad passes over two ranges of the Allegheny Mountains and one range of the Blue Ridge Mountains. The maximum ruling grades over these ranges vary from 1.33 to 1.52 per cent and range from three to eight miles in length. The locomotives are being used to supplement those of the present Class J-2 4-8-2 type now in a passenger service in this territory. They are hauling such trains as the George Washington, the Sportsman and the F. F. V., all of which are composed of modern, all-steel, air-conditioned Pullman and day-coach equipment, and the so-called tavern type diners in which is reproduced the charm of several famous southern colonial taverns.

A comparison of the principal dimensions of the new locomotives with several other outstanding locomotives of the same wheel arrangement is shown in one of the tables. While not the heaviest locomotives of their type, either in point of total weight or weight on drivers, their combined heating surface of 7,880 sq. ft. is the highest of any locomotive of this type previously built. The high total and the relatively high percentage of radiant heating surface is counted upon to produce a heat transfer which, combined with care throughout the design to effect high economy in the utilization of steam in the cylinders, is expected to provide a locomotive capacity of not less than 5,000 cylinder horsepower.

Aside from the liberal heating surface proportions, the boiler has been designed to provide the largest steam space possible within the clearance limits which are 15 ft. 6 in. above the rail and 10 ft. 6 in. maximum width.

The boiler shell is made up of three courses of nickel steel. The first is 91 11/16 in. in outside diameter and 27/32 in. thick; the second, which is conical, is 29/32 in. thick, and the third, which extends to the throat, is 100 in. in outside diameter and 15/16 in. thick. The firebox, which has 100 sq. ft. of grate area, contains two Thermic Syphons which are supplemented by two arch tubes for the support of the Security arch. The coal is fed to the Firebar grates by a Standard Type MB stoker. The boiler is fitted with the Type E superheater with the

General Dimensions and Weights of the Chesapeake & Ohio 4-8-4 Type Locomotives

Railroad	C. & O.
Builder	Lima Loc. Wks., Inc.
Date built	4-8-4
Road class	J-3
Road numbers	600-604
Type of locomotive	1935
Service	Passenger
Rated tractive force, engine, 85 per cent, lb.	66,960
Rated tractive force with booster, lb.	81,035
Weights in working order, lb.:	
On drivers	273,000
On front truck	89,500
On trailing truck	114,500
Total engine	477,000
Tender	381,700
Wheel bases, ft. and in.:	
Driving	19— 3
Engine, total	46—10½
Engine and tender total	98— 5¼
Driving wheels, diameter outside tires, in.	72
Cylinders, number, diameter and stroke, in.	2—27½ x 30
Valve gear, type	Walschaert
Valves, piston type, size, in.	14
Maximum travel, in.	7½
Boiler:	
Steam pressure, lb.	250
Diameter, first ring, inside, in.	91 11/16
Firebox length, in.	150 1/16
Firebox width, in.	96¼
Tubes, number and diameter, in.	65—2¼
Fluex, number and diameter, in.	220—3½
Length over tube sheets, ft. and in.	21—0
Fuel	Soft coal
Stoker	Type MB
Grate area, sq. ft.	100
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	396
Arch tubes and syphons	129
Firebox, total	525
Tubes and flues	5,013
Evaporative, total	5,538
Superheating	2,342
Comb. evap. and superheat	7,880
Feedwater heater	Worthington
Tender:	
Style	Rectangular
Water capacity, gal.	22,000
Fuel capacity, tons	25
Trucks	6-wheel

American multiple throttle and a Worthington Type 5-S feedwater heater. The drypipe terminates in the steam dome which is located on the first shell course about six feet back of the tube sheet.

The cylinders, which are 27½ in. in diameter by 30 in. stroke, have been carefully designed to provide large passage areas for both the live and exhaust steam. They are of steel with each cylinder and valve chamber cast integral the half saddle. The back heads are separate castings. The bottom of the cylinders is supplemented by electric welding at the frame fit and at the saddle splice joint. The spread is 91½ in. between centers. The valves are of the piston type, 14 in. in diameter, and are operated by the Walschaert gear with a maximum travel of 7½ in. The locomotives are fitted with Alco Type E reverse gear. The guides are the single bar, multi-bearing type.

Comparison of C. & O. with Other Heavy 4-8-4 Type Locomotives*

Road	C. & O.	L.V.	D.L. & W.	Grt. Nor.	Nor. Pac.	C. & N. W.
Class	J-3	T-3	Q-4	S-1	A-2	H
Service	Pass.	Pass.-Frt.	Pass.-Frt.	Pass.	Pass.	Pass. Frt.
Date	1935	1934	1934	1929	1934	1929
Weight of engine, lb.	477,000	435,000	447,000	472,120	489,400	498,000
Weight on drivers, lb.	273,000	272,200	274,000	273,700	279,800	288,000
Cylinders, in.	27½x30	27x30	28x32	28x30	28x31	27x32
Drivers	72	77	74	73	77	76
Boiler press., lb.	250	275	250	250	260	250-275
Grate area, sq. ft.	100	96.5	88.2	102	115	100
Comb. h.s., sq. ft.	7,880	7,495	7,668	7,849	7,138	7,571
Tractive force, engine, lb.	66,960	66,500	72,000	67,000	69,800	65,200–71,800
Tractive force, with booster, lb.	81,035	.....	.....	.....	.....	76 500–84,200

* All are equipped with feedwater heaters.

The frames are of the bar type, each a separate annealed steel casting, and are joined by the conventional type of transverse cast-steel bracing, with a cast-steel deck plate at the front and a steel cradle casting under the firebox. The cast-steel pilot is provided with a pocket in which the front coupler may be dropped when not in use.

The leading truck is of the General Steel Castings constant-resistance type, with inside journal boxes. The trailer is of the four-wheel Delta type and is fitted with a Franklin type C2 long-cut-off booster. The booster exhaust is carried to the stack.

The locomotives are fitted with Tandem main rods which operate on the crank pins of the second and third pairs of drivers. The first pair of driving boxes is fitted with the Alco lateral cushioning device. All axles, rods and crank pins are carbon steel forgings.

The locomotives are provided with the No. 6-ET brake equipment with two 8½-in. cross-compound air compressors. The compressors are mounted on the front deck on brackets extending under the front end of the smokebox. Force-feed lubricators furnish oil to the guides, the steam chests and cylinders, the engine-truck boxes, the air pumps and the hot-water feedwater pump. The lubricators on three of the locomotives are the Detroit 32-B type, and on two, the Nathan 16-feed type. A three-feed hydrostatic lubricator is provided for the booster, the stoker engine and the drifting valve.

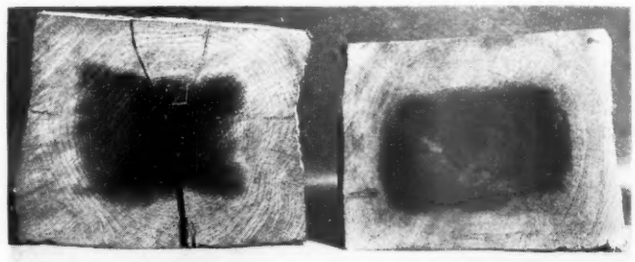
The tender has a capacity for 25 tons of coal and 22,000 gallons of water. It is carried on two Buckeye type, six-wheel trucks and has a loaded weight of 381,700 lb. The stoker engine is housed in the left side of the tender in a compartment set in the front water leg. The Franklin Unit Safety drawbar and the type A-1 Radial Buffer are provided between engine and tender.

Tests with New Preservative

SERVICE tests are being conducted on the Illinois Central to ascertain the value of the Osmose process of wood preservation in the treatment of gum, lowland red oak and long and short leaf pine. The same process has also been employed recently on this road in the preservative treatment of the piles in an existing trestle, in which considerable decay had already taken place at and below the ground line.

The preservative, which derives its name from the fact that penetration into the wood is secured through the process of osmosis, is applied to the pieces by hand with brushes. The compound consists of an aqueous paste comprising a preservative agent which penetrates the walls of the wood cells by osmosis, a protective agent which penetrates the wood to a lesser depth by capillary diffusion, a paste-forming colloidal substance, and water.

The preservative agent consists of sodium fluoride, a water-soluble inorganic salt, while the protective agent consists of dinitro phenol, an organic substance insoluble in water. The purpose of the latter substance, which penetrates only the outermost layers of the wood, is to provide a water-proof zone that will prevent the leaching out of the water-soluble preservative when the treated timber is exposed to rain or is placed in water or damp soil. The paste-forming colloidal substance dries on the surface of the wood and is designed to prevent the preservative from being washed off during the storing period.



These Crosstie Sections Have Been Given the Color Reagent Test in Order to Show the Depth of Penetration of the Osmose Preservative

The compound formed by the admixture of the above-mentioned ingredients is known as Osmolit and was employed on the Illinois Central in the treatment of green bridge timbers, piling and crossties. Another compound, known as Osmotite, which is identical with Osmolit except that potassium bichromate has been added, was employed in the treatment of the old piles at the ground line.

Penetration in Inches at 30 Days

	Dinitro phenol (Protective Agent)	Sodium fluoride (Internal Preservative)
Red Oak Ties	3/8	3/4
Red Gum Ties	5/16	1½
Pine Piling	3/8	1¾
Oak Piling	¼	¾

The timber selected for treatment with the Osmolit included red oak ties, red gum ties, pine piling, red oak piling and pine bridge timbers. The amount of preservative applied was equivalent to ¼ lb. of the dry powder per cubic foot of wood treated. This timber was treated within 24 hr. after being felled in the woods.

Tests to determine how far the preservative had pene-

(*Continued on page 114*)

Railroads Contest Pension Act

Supreme Court decision on A. A. A. foreshadows fate of revised railway pension laws

WASHINGTON, D. C.

A BILL of complaint contesting the constitutionality of the 1935 pension legislation enacted by Congress in August was filed in the supreme court of the District of Columbia on January 7 by 135 Class I railroads, including 32 in receivership or trusteeship, the Pullman Company and the two express companies.

The railroad retirement act of 1934, based upon the commerce clause of the Constitution, was declared unconstitutional by Chief Justice Wheat in the supreme court of the District of Columbia and by the Supreme Court of the United States in a decision rendered in May, 1935. Congress, declining to follow the suggestion of the President and the Attorney General for the appointment of a commission to investigate fully the whole question of railroad pensions before considering a new law, passed two laws to meet the lack of power under the commerce clause. One act levied an excise tax on the railroads of 3½ per cent of the compensation, not in excess of $300 per month, paid by them to employees, and an income tax on each employee of 3½ per cent of his compensation not in excess of $300 per month. The other act, passed the same day, established a retirement system for railroad employees reaching 65 years of age with a maximum pension of $120 per month.

The bill of complaint charges that the tax act is not to create revenue for the support of the government but that its true purpose is to furnish funds to pay the pensions, also that the retirement act is not a disbursement of general government funds but is a distribution of the funds raised by the tax on the railroads and their employees. It charges that the separation of the two acts and the scheme of passing the funds through the U. S. Treasury is a device to accomplish what the Supreme Court has declared could not be lawfully done.

The first year's payment by the railroads under the law, it is alleged will be $58,000,000. The total cost will increase until for the year 1960 it will amount to $269,000,000.

The bill charges that the two acts as a pension system have many of the same unconstitutional features as the 1934 law. Among others it provides for a pension to discharged employees when they reach 65, regardless of cause of the discharge. Also, if a person was in service at the date of passage of the law, and quits at any age and with any service period and for any cause, he will receive a pension when he reaches 65 years of age regardless of how long such person shall have been entirely out of railroad service.

The railroads allege that the whole scheme is one of spoliation and confiscation of their property and not taxation. The plaintiffs believe the A. A. A. decision, while not controlling, will be helpful to them in this case.

Counsel for the railroads expressed the hope that the case may be decided on its merits before March 1, the effective date of the act, and therefore the bill does not ask for a restraining order or for an interlocutory injunction. The procedure will be for the retirement board to answer in 20 days and the case will then be tried.

The case is being handled for the railroads by a committee of counsel composed of R. V. Fletcher, vice-president and general counsel of the Association of American Railroads; S. R. Prince, general counsel, Southern; S. S. Alderman, general solicitor, Southern; Jacob Aronson, vice-president, law, New York Central Lines; E. S. Jouett, vice-president and general counsel, Louisville & Nashville; D. F. Lyons, general counsel, Northern Pacific, and E. E. McInnis, general counsel, Atchison, Topeka & Santa Fe. The bill includes the following:

On the face of the two acts they are related each to the other textually; in field of operation and application; by their respective relation of burdens and benefits to the same classes, bases and measures; by provisions which are baseless and inexplicable on the face of each act standing alone and explainable only by corresponding provisions of the other act; by their respective references to and amendments of the social security act; and by their combined substantial identity with the unconstitutional railroad retirement act of 1934; all of which is confirmed by their legislative history. The two acts are the coordinated, complementary and interdependent parts of, and together they constitute, under the pretense of separate exercise of the taxing power and of the power of appropriation, a single legislative scheme to establish a railroad pension system under which carriers shall be compelled to contribute large sums of money, without their consent, and a group of persons consisting of all present and future carrier employees and certain others shall be compelled to contribute substantial amounts, whether they desire or not, for the procurement of annuities for only those of said group who have attained or shall attain age 65, or who have completed or shall complete 30 years' carrier service, and for the surviving widow, widower or dependent next of kin of each such annuitant. The pension system so provided for will not be effectuated unless both acts are enforced. The separation of the two acts and the scheme of passing through the Treasury the funds for the payment of the annuities are devices to accomplish by indirection real ends and aims not within the power of Congress, impairing rights retained in the ninth amendment and invading powers reserved in the tenth amendment to the Constitution of the United States.

The tax act, for the period beginning March 1, 1936, and ending February 28, 1937, unlawfully imposes upon each of the plaintiffs, and unlawfully requires defendant Guy T. Helvering, as Commissioner of Internal Revenue, to enforce against each of the plaintiffs, the obligation to pay into the Treasury of the United States, in the guise and pretense of an excise tax as hereinbefore alleged, amounts equal to 3½ per cent of all compensation not in excess of $300 per month paid by it to each of its employees between said dates. The amount thus to be taken from plaintiffs for the one year covered by the tax act in the aggregate will be approximately $58,000,000, which is more than 90 per cent of all funds exacted of all carriers by said act.

The exaction so made against plaintiffs by the tax act and here complained of is not a tax but a seizure of funds belonging to plaintiffs for bestowal upon others. It will deprive plaintiffs of their property without due process of law in violation of the fifth amendment to the Constitution of the United States. The disbursement of funds so exacted of plaintiffs under the tax act for the purposes and pursuant to the provisions of the retirement act, will not be a lawful exercise of the power of Congress to appropriate public funds but will be a disbursement for purposes beyond the competence of Congress.

The express intent of the retirement act is that the permanency of said pension system and of the policy thereby disclosed shall be assured, and the perpetuation of said pension system will require future exactions from these plaintiffs in addition to those herein complained of under the tax act, the amount of which future exactions cannot be stated with certainty. The annuity

cost of said pension system, in so far as applicable to Class I railroads, reasonably estimated, for the calendar year 1937, will be $72,000,000, increasing annually until it will be for 1940, $107,000,000; for 1950, $215,000,000; for 1960, $269,000,000; and for other years sums similarly burdensome in amount. Under the policy of said pension system approximately one-half of such sums will be taken from these plaintiffs.

Said pension system likewise compels all employees of carriers, under the guise and pretense of an income tax, to pay what is in substance and reality not a tax but a compulsory contribution of a portion of their wages to the support of said system. The true purpose and effect of both the pretended excise tax on carriers and the pretended income tax on employees is to make said pension system a contributory system, financed by equal and compulsory contributions by carriers and their employees, so that in substance and effect no burden for the support of said system shall be imposed on the general funds of the United States. The exaction so made of plaintiffs' employees is not a tax but a seizure of their private funds for use under legislative mandate to support a compulsory pension system, is beyond the power of Congress to impose, will impair rights retained in the ninth amendment and invade powers reserved in the tenth amendment, and will deprive them of their liberty and property without due process of law in violation of the fifth amendment to the Constitution of the United States. Since the pretended income tax on employees is an integral part of the legislative scheme and of the pension system sought to be set up, plaintiffs invoke the unconstitutionality of said system in that respect as well as in respect of the invalidity of the pretended excise tax on carriers.

The tax act and the retirement act and the pension system sought to be created by said acts are arbitrary, unreasonable and capricious and will deprive plaintiffs of their property and liberty of contract without due process of law, and will take their property without just compensation, as hereinafter set forth.

Language used by the Supreme Court of the United States in its decision holding the AAA act unconstitutional on January 6 was highly encouraging to the railroad counsel who were planning to contest the railroad retirement acts. Proponents of the pension law, representing the railroad labor organizations, had contended that they had been so drawn as to get around the court's decision against the previous pension law, which held that it was not a proper regulation of interstate commerce, because the provisions for the new plan were divided between two statutes, one of the payment of retirement annuities by the federal government and another levying taxes for approximately the amounts estimated to be needed upon the railroad companies and their employees. In this week's decision the court plainly indicated that it was not supposed to be deceived by such a device.

Similarly, in the AAA case, the government had contended that the processing tax could be sustained under the general taxing power of the government, independently of the purpose and of the use to be made of the money under another part of the act to pay farmers to curtail production. "The government in substance and effect," the court says, "asks us to separate the agricultural adjustment act into two statutes, the one levying an excise on processors of certain commodities, the other appropriating the public moneys independently of the first. Passing the novel suggestion that two statutes enacted as parts of a single scheme should be tested as if they were distinct and unrelated, we think the legislation now before us is not susceptible of such separation and treatment."

Proponents of the pension plan had also argued that a taxpayer would have no standing to contest payment of a tax because of the use that was to be made of the money, but the court pointed out that in the case relied on in support of this argument "no question was made of the standing of the shipowner to raise the question of the validity of the scheme and consequently of the exaction which was an incident of it."

The court had previously held that the pension law was not a proper regulation of interstate commerce and in this case it held that "resort to the taxing power to effectuate an end which is not legitimate, which is not within the scope of the Constitution, is obviously inadmissible."

The special commission provided for in the railroad retirement act, which was to make a thorough investigation of the subject of railroad pension systems and "desirable provisions of a sound retirement and annuity system," went out of existence on December 31 after filing with the President a report stating that it had been organized too late to make more than a brief study of the subject and including no suggestions or recommendations. At one time the special commission had been proposed to make its study before further legislation on the subject was enacted but as the railroad pension bills were passed the provision for the commission was included also. However, the members to be appointed by the President were not appointed until some time in December and the commission found it impossible to go very far into the subject in the time allowed by the law for its report.

Tests with New Preservative

(*Continued from page 112*)

trated into the wood were made 30 days after the preservative had been applied by taking increment borings from the various pieces.

The accompanying table shows the penetration in inches of the preservative and protective agents in the various pieces, as determined at the end of 30 days.

Ninety days after the preservative was applied all but two of the ties were placed in the main line tracks of the railroad near Hammond, while the piling and other bridge timbers were inserted in a bridge located about 30 miles south of Jackson, Miss. A red gum tie and a red oak tie were shipped to the laboratory of the Osmose Corporation of America at Buffalo, N. Y., this company having secured the rights for using the Osmose process and Osmose preservatives in this country. In May, 1935, about five months after treatment, additional increment borings were taken from the piles and bridge timbers. These showed that the dinitro phenol had penetrated in most cases to depths of ¾ in. or ⅞ in., although in a few cases the penetration was ⅜ in., ½ in. or ⅝ in. The depth of penetration of the sodium fluoride was found to range between 2 in. and 4½ in.

The Osmose process was also applied to arrest decay in 357 piles in a trestle at Chicago that was constructed of untreated white oak about seven years ago. After the decayed outer surface had been removed, Osmotite was applied with brushes uniformly over a 36-in. section of each pile, extending downward from a point 8 in. above the ground line. To protect the preservative from damage during the impregnation period, a bandage was wound spirally around the treated portion of each pile.

Eight increment borings from ¾ in. to 1½ in. in length that were taken from various piles 90 days after treatment showed that the preservative had penetrated to the full depth of the borings.

The tests on the preservation of the green timbers were carried out under the supervision of W. A. Summerhays, manager of the Forest Products bureau of the Illinois Central, while the treatment of the decayed piles was done under the direction of L. H. Bond, engineer maintenance of way.

I.C.C. Annual Report

Some recommendations for legislation included— Others await Eastman report

WASHINGTON, D. C.

RESERVING its comments on transportation legislation to be recommended by Co-ordinator Eastman until it transmits his report to the President and Congress shortly, the Interstate Commerce Commission in its annual report to Congress on January 7 included the following recommendations for legislation:

1. That further statutory provisions be enacted to protect employees from undue financial loss as a consequence of authorized railway abandonments or unifications found to be in the interest of the general public, or otherwise lawfully effected.

2. That the act be amended to include the power to regulate minimum rates of water carriers otherwise within our jurisdiction.

3. That section 20 (2) of the act be amended so as to provide for a penalty against a carrier and its officers for failing to make correct, as well as specific, answers to questions in reports filed with us.

4. That section 1 (22) and section 20a (1) be amended by substituting provisions exempting from our jurisdiction all street, suburban, and interurban electric railways except such as are operated as parts of general steam railroad systems of transportation or are engaged in the general transportation of freight and interchange standard steam railroad freight equipment with steam railroads for transportation of interstate or foreign commerce to or from points on their lines, and that a similar exemption of such electric railways as "carriers" from the provisions of section 5 (4) and (5) be made by limiting the definition of the term "carrier" through appropriate amendment of section 5 (17).

Would Create Appellate Division

Another recommendation is for changes in the interstate commerce act which would authorize the commission to create an appellate division or divisions of not less than five commissioners, to which the commission could refer applications for rehearings either generally or in particular cases or classes of cases. The decision of the appellate division would be final, the same as if it were by the entire commission. This would relieve the commission of the necessity of having 11 commissioners consider many cases which are not of such character or importance as to warrant such procedure.

In the light of additional legislation assigning new duties to the commission and some months' experience in organizing bureaus to meet the new duties, the commission has given further consideration and study to the various plans for the reorganization of the commission which have been presented and its conclusion that there is no present need for an increase in the membership of the commission has been confirmed and strengthened.

As the report is for the period ended October 31 and many of the statistical reports considered run only through September or August, it was written before the recent marked improvement in the railroad earnings situation was reported. The discussion of railroad earnings and traffic includes the following: "The operating revenues of the steam railways have in 1935 continued above the lowest level of the depression, but there has been lacking the pronounced improvement which was necessary to absorb the increased level of wages and material cost."

Comment on "Emergency" Rate Rise

Comment is made that "the emergency freight charges, effective April 18, 1935, on specified commodities, combined with voluntary reductions by carriers to meet competitive situations, and with fluctuations in proportions of various kinds of traffic have had little net effect on freight revenues per unit of traffic." There has been on the whole, the report says, little complaint from the shipping public against the payment of the surcharges. Most of the complaints received have been directed against inequalities in the surcharge rates on competing articles, and nearly all of these, when well grounded, have been corrected, or are from time to time being corrected. Since April the carriers have also, through concerted or individual action, canceled or reduced the surcharges on a number of articles moving between specified points or in particular localities or territories for the purpose of stimulating traffic or preventing its diversion to other forms of transportation.

Total rail operating revenues, including both freight and passenger, in 1932 were 51.2 per cent of the 1923-25 average; in 1933, 50.6 per cent; in 1934, 53.5 per cent; and for the first nine months of 1935, 55.0 per cent of the nine months' average in the base period.

Total operating expenses in 1932 were 51.7 per cent of the 1923-25 average; in 1933, 48.4 per cent; in 1934, 52.6 per cent; and for the first nine months of 1935, 54.7 per cent of the comparable base period average. The 10 per cent wage cut of February 1, 1932, has now been completely eliminated. The carriers met this increase in wage level in part by a reduction in employment, which was possible because of a traffic decline in the last half of 1934. The seasonally adjusted index of railway employment for June, 1934, was 57.8 per cent of the 1923-25 average and declined to a low of 55.1 for April, 1935. Since April there has been a slight increase to 55.4 per cent for September.

The maintenance of the railway plant continued, in 1935, at the low depression level of recent years. The report also says that the cost of fuel used by railroads continued to increase in 1935. The net railway operating income of the first eight months was 12.9 per cent under that for the same period in 1934. The operating ratio rose from 74.56 to 77.04 in the same period.

Adaptation to New Conditions in Progress

"It has come to be increasingly plain," the report says, "that the emergence from the unfavorable financial situation above indicated is dependent not only on a revival of business, especially in construction activities, but also on the adaptation of transportation methods to conditions created by competition from other means of transportation. Such adaptation is in progress. Pick-up and delivery service is being widely extended; unprofitable

trains are being replaced by motor bus and truck transportation, the field of motor bus transportation being even now dominated by railway affiliated corporations; experiments are being made with lighter equipment, the comfort and speed of travel is being increased, and search is being made for opportunities for economy in expenditures such as pooling of traffic."

Although since the last report no major consolidation pursuant to the commission's general plan has been proposed or effected, the report says that the transactions and agreements approved involved a closer knitting of properties, including approximately 7,341.67 miles of railroad, of subsidiaries or connecting railroads to properties of larger carriers.

Commission's Docket Being Reduced

Steady progress has been made in recent years in reducing the number of cases pending on the commission's formal docket, which was 1,783 in 1932 and only 849 on October 31, 1935. The number of formal complaints filed has also been reduced and for the last year was 503, of which 469 were original complaints and 34 sub numbers, a decrease of 42 as compared with the previous period. The commission decided 844 cases during the year and 129 have been dismissed by stipulation or on requests of the complainants, making a total of 973 cases disposed of, as compared with 1,355 during the previous period. Approximately 140 formal and investigation and suspension cases have been reopened for further hearing and reconsideration. The commission conducted 760 hearings and took approximately 118,380 pages of testimony. Approximately 36 per cent of the formal complaint cases are now handled by the shortened-procedure method. In cases so handled and decided during the year the average elapsed time to reach a decision was 337 days from the receipt of complaint and 202 days from the receipt of the final memorandum.

Rate adjustments were protested and suspension asked in 352 instances, a decrease of 81 under the previous year. Of these 123 represented reductions, 194 represented increases, 34 represented both increases and reductions. They covered not only a large number of rate schedules but many thousands of rates. In 119 cases suspension was ordered and in 153 cases the commission refused to suspend. The number of fourth section applications filed was 349 and 358 orders were entered in response to applications, of which 58 were denial orders, 110 were orders granting permanent relief, and 190 were orders authorizing temporary relief. Formal reports to the number of 161 were issued. All but 4 of the applications filed under the 1910 amendment to the fourth section have been disposed of.

A tabulation shows the number of cases, over 12,000, in which matters were handled by delegation to a single commissioner under the authority given by amendment to section 17 of the law. Over 8,000 of these were special permissions or other permissible waiver of rules regarding schedules of rates under section 6, handled by Commissioner Aitchison, and over 4,000 were applications and complaints on the special docket. handled by Chairman Tate.

Bureau of Valuation

The activities of the Bureau of Valuation during the year have largely centered in bringing inventories and records of railroads to currency and keeping them current, inventorying the properties of oil pipe line common carriers, completion of tentative valuation report on the Western Union Telegraph Company, and responding to the calls of the commission and the co-ordinator for valuation records, data, and assistance. During the year the staff of the bureau has been reduced from 353 to 304.

Accounting Forces Diverted to Wheeler Investigation

Over one-half of the forces of the Bureau of Accounts, according to the report, has been absorbed into the work called for by Senator Wheeler's investigation of railroad financial matters and "has thus been diverted from the performance of its normal functions to a considerable extent." Until completion of the investigation under the resolution, it adds, "we shall be obliged practically to discontinue the general examinations of carrier accounts which were resumed in 1932 and upon which we rely as the most effective means of ensuring conformity with our prescribed accounting classifications and as a means, also, of securing information bearing on the enforcement of other provisions of the acts which it is our duty to adminster. This normal work had already been seriously affected, as we have made clear in prior reports, by the drastic curtailment in 1933 and subsequent years of the appropriations for the bureau, and also by special work which our accountants have heretofore been called upon to do for Senate and House investigating committees and for the federal co-ordinator of transportation."

Regarding the investigation the report says that "this work is important, and, to a considerable extent, will cover phases of carrier accounting and related carrier activities which should be included in the routine investigations by the bureau but which, for reasons adequately explained in prior reports, it was not possible to cover adequately during the long period, which did not terminate until 1932, when the forces of the bureau were absorbed in the audit of carrier income accounts in connection with the ascertainment of so-called "standard return" under the guaranties of the transportation act, 1920, and of the income subject to recapture under the latter act. To this extent the work may be regarded as in line with certain of the normal functions of the bureau and as concentration, for the time being, upon phases which have not been adequately covered hitherto. As indicated above, however, the investigation goes into numerous other matters which are not embraced within the normal functions of the bureau nor within the powers of investigation which have been given to the commission."

Following are extracts from the report as to the activities of the various commission bureaus:

Abandoned Mileage

During the year ended October 31, 1935, there were 122 applications filed for permission to abandon 2,537.172 miles of railroad lines or the operation thereof. The Commission granted 100 applications of which 27 were contested and 73 uncontested cases, involving 336.35 miles of main line and 784.282 miles of branch line, of Class I carriers, together with 571.19 miles of so-called "short lines," of which 463.07 miles constituted the entire lines of the applicants and 108.02 miles portions of such lines. Information is not available as to the total number of miles which were actually abandoned under the permissions granted. In proceedings in which certificates were issued, covering 1,296.23 miles of road, the estimate of average annual losses from continued operation or of future annual savings resulting from abandonment amounted to $1,132,614. In the proceedings covering the remaining 361.642 miles, estimates of losses or savings are not given.

It has been shown in certain cases that the necessary cost of rehabilitation or of bringing up deferred maintenance of tracks which were permitted to be abandoned, aggregating about 482 miles, would require an expenditure estimated at $1,730,616.

The reasons generally advanced to warrant abandonment were insufficient traffic, resulting from various causes, including failure of expected traffic to develop, exhaustion of sources of traffic from forests and mines, and losses of traffic to competing lines

of railroad, or other forms of transportation. In a few cases operation of lines had been discontinued before applications for permission to abandon were presented, and in some applications were granted only in part.

The actual monetary savings resulting from abandonment of mileage is generally an indeterminate amount, and while we are satisfied that the abandonments permitted were in the interests of economy, the saving cannot be stated in exact figures. In nearly all cases abandonment results in the loss of traffic, but in many cases some portion of the traffic formerly handled on the lines proposed to be abandoned will continue to reach the applicants' railroads by highway.

Inaccuracies in Carriers' Report

Failure to file annual reports within three months following the period for which they are made, or within the time extended by us for the making and filing thereof, or to file other reports within the time fixed by us, and failure to make *specific* answers in any of such reports within 30 days from the date set for the filing of the reports, constitutes an offense for which a penalty is prescribed in section 20 (2).

The statute, however, does not fix a penalty for failure to make *correct* answers to questions set up in the report forms prescribed by us. Hence the making of answers which are *specific,* although not *accurate,* does not constitute an offense under section 20 (2).

In certain instances which have come to our attention important questions appearing in our report forms have been answered in such a manner that, while the answer clearly is inaccurate, and the absence of accurate information has been a hindrance to us in the performance of our duties, nevertheless there was not sufficient evidence that the incorrect answer was made with corrupt intent to furnish a basis of successful prosecution for perjury against either the individuals who subscribed to the report, or even against the carrier itself if, as seems doubtful, a corporation can commit such an offense. The absence of a provision in the statute specifically making it an offense for a carrier or its officers to file reports which contain inaccurate answers, and providing a specific penalty therefor, leaves the door open to the intentional making of incorrect or incomplete, although *specific,* answers to material questions, without incurring any punishment whatever unless there is sufficient evidence to sustain a charge of perjury against the individuals.

We recommend that section 20 (2) of the act be amended so as to provide for a penalty against a carrier and its officers for failing to make correct, as well as *specific,* answers to questions in reports filed with us. This should have the effect of causing the carriers to be more diligent and careful in the preparation of reports, and of precluding the defense, which now can be set up successfully in certain instances, that the failure to furnish accurate answers to material questions is the result of negligence rather than of an intention to deceive.

Minimum Rail-Water Rates

At present our jurisdiction over water carriers is limited, attaching generally under the conditions set out in section 1 (1) (a) of the Interstate Commerce Act: "The transportation of passengers or property wholly by railroad, or partly by railroad and partly by water when both are used under a common control, management, or arrangement for a continuous carriage or shipment;". Section 15 (1) has the effect of exempting from our control minimum rates in the case of a through route where one of the carriers is a water line. Our jurisdiction over rates of common carriers by rail and common carriers by motor vehicle covers both maxima and minima. Control over minimum rates of water carriers where our jurisdiction otherwise attaches would enable us to effect stability in the rate adjustment maintained by the several carriers and prevent the difficulties often resulting in the rate structure where unreasonably low rates are maintained by carriers beyond our authority. Therefore, it is recommended that the act be amended to include the power to regulate minimum rates of water carriers otherwise within our jurisdiction.

Passenger Fares

The situation with respect to the level of the passenger fares maintained in the respective major districts of the country remains practically the same as outlined in our last report. The constant decline referred to in passengers and revenue seems to have struck its lowest level, but while the eastern carriers are just about holding their own in that respect, the southern and western carriers under their experimental reduced fares have shown steady and encouraging increases in both passengers carried and revenue received.

The hearings in the investigation referred to have been completed; the examiner has issued a report embodying his recommendations to us; the issues were recently orally argued before us; and the case now stands submitted. A decision may be expected shortly.

Railway Passes

In order to secure greater uniformity in the various classes into which carriers now are keeping statistics of the number of passes issued an inquiry is in progress to determine the extent to which carriers are issuing passes and free tickets. Certain records are kept by carriers in accordance with our regulations governing the forms and recording of passes, but a comprehensive statistical summary of the extent to which free transportation is accorded to various classes of persons heretofore has not been attempted.

Financial Losses of Railway Employees

In proceedings under provisions of the interstate commerce act we issue certificates of public convenience and necessity authorizing railway common carriers to abandon existing facilities, or to unify their railway properties or operations. It follows as a consequence of such abandonments or unifications that sometimes employees are transferred from one location to another and in some cases are dismissed from the service. In individual cases the financial sacrifices involved are calamitous. In some cases the carriers concerned have voluntarily effected arrangements satisfactory to the employees; in others we were able to impose protective provisions in our orders; but in still others we lacked the statutory authority to impose conditions which just treatment of employees appeared to require. This refers particularly to relocation or abandonment of shops. We recommend further statutory provisions to protect employees from undue financial loss as a consequence of authorized railway abandonments or unifications found to be in the interest of the general public, or otherwise lawfully effected.

Bureau of Finance

The following is a summary of applications filed during the year for certificates of public convenience and necessity under Section 1 (18) to (22) of the Act, and of the disposition made of applications:

Item	Number	Mileage
Applications filed:		
For authority to construct new lines or extend existing lines	11	196.906
For permission to abandon mileage	122	2,537.172
For authority to operate or to acquire and operate	26	2,375.165
Total	159	5,109.243
Certificates issued:		
Authorizing new construction	13	88.669
Permitting abandonment	100	1,691.822
Authorizing operation or acquisition	34	826.815
Total	147	2,607.306
Applications denied:		
For authority for new construction	2	128.000
For permission to abandon	6	310.430
Total	8	438.430
Applications dismissed:		
For authority for new construction	2	610.000
For permission to abandon	5	122.466
For authority to acquire or to acquire and operate	2	55.540
Total	9	788.006

Since the effective date of the act we have authorized the construction of approximately 9,851 miles of new railroad. Our certificates of authorization have, since April 4, 1923, generally included the requirement that carriers shall complete the proposed construction within a specified period, and shall report to us such completion within 15 days thereafter. We have, upon good cause shown by the carriers, granted a number of applications for extension of time for completion. Based on reports

by carriers and on other available information, it appears that of the construction authorized, approximately 6,854 miles of road have been completed, and that projects aggregating about 2,073 miles have been abandoned or deferred. The remainder, about 924 miles, represents cases in which the specified completion periods have not expired.

Under section 20a (9) certificates of notification of the issue of notes maturing within 2 years in the aggregate sum of $85,449,465.72 were filed.

The following tabulation shows by classes the respective amounts of securities authorized:

Class of security	Nominal issue	Conditional issue	Actual issue
Common stock	.....	.....	*$1,802,500.00
Mortgage bonds	$15,127,000.00	$215,497,438.96	136,062,292.97
Income bonds	.....	.....	84,350.00
Debentures	6,300,000.00	.....	2,100,000.00
Secured notes	.....	.....	42,843,552.42
Unsecured notes	32,923,975.70	.....	33,622,500.00
Equipment-trust obligations	500,000.00	1,422,000.00	23,775,000.00
Receivers' certificates	.....	.....	30,229,000.00
Receivers' notes	.....	.....	113,060.00
Trustees' certificates	.....	.....	645,748.00
Total	$54,850,975.70	$216,919,438.96	$271,278,703.39

* Also 2,510 shares without par value.

Of the securities for actual issue $105,404,992.97 of mortgage bonds, $84,350 of income bonds, $27,231,552.42 of secured notes, $29,012,038 of unsecured notes, $29,968,000 of receivers' certificates, and $30,000 of receivers' notes, or a total of $191,730,933.39 were authorized to be issued in exchange for, or in lieu of, or to pay, extend, or refund other outstanding securities, and $19,605,000 of mortgage bonds had previously been authorized for nominal or conditional issue. From the foregoing it appears that additional capitalization to result from the various authorizations is as follows: Nominal issue $39,810,975.70, conditional issue $13,522,638.96, and actual issue $59,942,770 and 2,510 shares of common stock without par value.

During the period covered by this report many carriers have resorted to temporary financing to meet their current requirements. The amount of short-term notes issued without our authorization is shown above. Of this amount $66,438,491.14 was for renewal of notes previously issued and the remainder was to meet current corporate requirements. In addition there are included in the foregoing tabulation secured and unsecured notes and receivers' notes of a maturity ranging from not more than 30 days to three years and aggregating $85,358,996.86, authorized by us for actual issue. Of the short-term notes so authorized $51,773,590.42 was to pay, renew, extend, or refund outstanding securities and $33,585,406.44 was for other corporate and receivers' purposes.

Under the provisions of section 20a (12) of the act it is unlawful for any person to hold the positions of officer or director of more than one carrier unless such holding shall have been authorized by our order. During the period covered by this report we received 134 applications from individuals and 2 from carriers. These applications related to 138 different individuals. Disposition was made of 129 applications, of which 122 individual applications and 2 carrier applications were granted, and 5 individual applications were withdrawn.

Since our last report, we have approved loans under the Reconstruction Finance Corporation Act aggregating $22,401,898 upon applications filed by 8 carriers. Upon application of another carrier, we also approved, under the provisions of the same act, the purchase by the Reconstruction Finance Corporation of $28,978,900 of the carrier's maturing securities to aid in its financing. The aggregate amount of loans approved by us under this act is $553,948,155.34.

Since work under this act was initiated in February, 1932, applications for loans have been filed by 156 carriers or their receivers or trustees. Loans to 69 of these applicants were approved. We have approved the extension of the time of payment of 44 loans aggregating $160,608,147.79 upon applications filed by 34 carriers. Some of the carriers have applied for extension on more than one loan.

Our duties during the year in connection with the revolving fund created by section 210 of the Transportation Act, 1920, have been only such as are usually incidental to supervision by the Secretary of the Treasury of loans outstanding under this section. Since the effective date of the act we have certified loans to carriers aggregating $350,600,667, of which $324,628,010.64 has been repaid. Interest paid on loans amounts to $90,293,172.66.

Since our last report petitions for reorganization under Section 77 of the Bankruptcy Act, as amended, have been filed in the district courts of the United States by 10 railroad companies. No petitions have been offered by creditors and no petitions have been dismissed. Plans of reorganization have been filed by seven additional railroads and hearings have been held by us thereon in the case of four; viz, the Chicago & Eastern Illinois Railway Company, the Chicago South Shore & South Bend Railroad, the Copper Range Railroad Company, and the Chicago, Milwaukee, St. Paul & Pacific Railroad Company. The hearings on the Chicago & Eastern Illinois and Chicago, Milwaukee, St. Paul & Pacific have been indefinitely adjourned; those relating to the Chicago, South Shore & South Bend Railroad and Copper Range Railroad have been closed and briefs filed.

Bureau of Inquiry

Our staff of attorneys and special agents directed and conducted investigations in more than 200 cases during the year. Those investigations were made for the purpose of enabling us to perform our statutory duty of enforcing the criminal and penal provisions of the act, and of otherwise keeping ourselves informed of the manner and method in which the carriers' business is being conducted.

Many of such investigations disclosed practices which had been resorted to by railroad and trucking companies and by shippers with a view to defeating published rates and otherwise granting or obtaining concessions and discriminations and dissipating the carriers' revenues.

Other serious depletions of the carriers' revenues appear to have resulted from the practices of carriers and forwarding companies in respect to the transportation of consolidated shipments under all-commodity rates. Our investigations disclose that the tariff provisions governing such shipments readily lend themselves to abuses by forwarding companies, and that in certain instances those companies, with little or no opposition from the carriers, are obtaining advantages by means of tariff interpretations which are exceedingly far-fetched. In other instances certain of the forwarding companies, with knoweldge of the carriers, have deliberately evaded the provisions of the tariffs. Many of the practices permitted by the carriers, under the guise of "carrier's operating convenience," in reality are for the convenience of the forwarding companies.

The filing by shippers with carriers of false loss and damage claims on shipments of perishables continues to be a wide-spread practice, and our investigations indicate that certain of the carriers settle such claims without adequate investigation of the actual merits thereof, and for traffic reasons. During the year seven indictments based on false claims practices were returned.

For violations of the act and related acts, 31 indictments were returned and 4 informations were filed. The specific offenses alleged therein were the granting and accepting of concessions and rebates by carriers and shippers, respectively; false description of freight, and furnishing false reports of weights thereof, by shippers; filing of false claims for loss and damage by shippers with carriers; acquisition by a carrier of control of another carrier through purchase of capital stock without our approval; the receiving by a carrier of a greater compensation for a shorter than for a longer haul over the same route; and unlawful use of interstate passes. Forty cases were concluded in the district courts and, in addition to several substantial sentences of imprisonment, fines aggregating $55,550 were imposed.

Bureau of Motor Carriers

The organization of the Bureau of Motor Carriers is progressing satisfactorily and, when complete, will consist of a general staff in Washington supplemented by a field force. The leaders in this organization will, in most cases, be men thoroughly experienced in motor carrier transportation.

Much preliminary work must be done before various phases of regulation as provided in the act may actually be made effective. Forms to be used by motor carriers coming under the so-called *"grandfather"* clause in applying for certificates of public convenience and necessity, and for permits, as well as other forms, have been prepared and distributed. Many applications are now being received.

In establishing rules and regulations as to safety of operation and equipment, insurance or other security for the protection of the public, tariffs, accounting classifications, periodical reports,

procedure, etc., it is necessary to consider carefully the existing methods and practices, the present requirements of state and municipal authorities, and the need in the public interest of further and differing requirements. This work is now in progress. It is our purpose to formulate practical and effective requirements and yet to cause no greater expenditure of time and money by those affected by the act than is actually necessary.

Safety Work

A summary of all accidents and casualties to persons occurring in connection with steam locomotives compared with the previous year shows an increase of 4.7 per cent in the number of accidents, an increase of 314.3 per cent in the number of persons killed, and an increase of 19.7 per cent in the number of persons injured.

During the year 12 per cent of the steam locomotives inspected by our inspectors were found with defects or errors in inspection that should have been corrected before the locomotives were put into use as compared with 12 per cent in the previous year, 10 per cent in the year ended June 30, 1933, and 8 per cent in the year ended June 30, 1932. There was an increase of 22 per cent in the number of locomotives ordered withheld from service by our inspectors because of the presence of defects that rendered the locomotives immediately unsafe. Boiler explosions caused by crown sheet failures continue to be the most prolific source of fatal accidents.

On June 30, 1935, there were equipped with automatic train-control devices, 8,253.1 miles of road, 15,255.1 miles of track, 5,719 locomotives and 38 motor cars; in addition there were 2,214.7 miles of road, 5,002.5 miles of track, 2,803 locomotives and 707 motor cars equipped with automatic cab signals without automatic train-control devices. The total equipment of automatic train-control and cab-signal devices comprised 10,467.8 miles of road, 20,257.6 miles of track, 8,522 locomotives, and 745 motor cars.

We investigated 73 train accidents, of which 31 were collisions, 41 were derailments, and 1 was classed as a miscellaneous accident. The collisions resulted in the death of 55 persons and the injury of 657 persons; the derailments resulted in the death of 68 persons and the injury of 294 persons, and the miscellaneous accident resulted in the death of 2 persons, a total of 125 killed and 951 injured.

Approximately 1,332,700 cars and locomotives were inspected. The number of safety appliance defects per 1,000 cars and locomotives inspected was 26.02. The corresponding figures for the preceding year were approximately 1,240,000 inspected and 28.21 defects per 1,000 inspected.

Progress has continued in the elimination of railroad and highway crossings at grade. As shown by reports of the carriers, during the calendar year 1934, 2,109 grade crossings were eliminated; however, in the same period 999 grade crossings were added, the net reduction being 1,110. The total number of crossings of this character at the end of the year was 234,820. As noted in our last annual report and as again shown by the foregoing table, the number of deaths and injuries resulting from grade crossing accidents is excessive and is capable of material reduction.

Aided by an allocation of $200,000,000 for elimination of danger at grade crossings, from the Emergency Relief Appropriation of April 8, 1935, extensive programs are now under way in many of the states for both the protection and the elimination of grade crossings. A considerable measure of standardization has been achieved in signals for highway traffic at grade crossings, and the installation of these signals, which can be completed promptly and at relatively small expense, materially reduces the hazards to both trains and highway traffic at these dangerous intersections.

Bureau of Service

During the period covered by this report it has not been necessary to exercise the emergency powers conferred upon us by the car service provisions of the act.

An increased number of informal complaints falling within the scope of "car service" as defined in section 1, paragraphs (10) to (17) of the act, and other matters relating to demurrage, storage, and refrigeration which required attention, were received during the year. Calamities such as floods in various parts of the country, dust storms in the western plains area, the drought in certain sections, and killing temperatures in Florida and Texas interrupted and changed the flow of transportation, and affected the supply of cars which had been accumulated for movement of seasonal commodities and in many instances required the transfer or return empty of cars which had been provided in anticipation of such movement. Service agents were assigned to the sections affected and performed valuable service in such cases by co-operating with carriers and shippers and by keeping us promptly advised with respect to current developments so that prompt action might be taken where necessary to avert delays to traffic.

Reports from our service agents indicate a potential shortage of certain types of freight cars, more particularly box cars for high-class loading. The supply of open-top cars for coal has also been close in several localities, and the bad-order car situation has not improved during the year. These conditions have been directed to the attention of the carriers involved. Reports coming to us from carrier sources refer to serviceable cars and surplus cars. The term "serviceable" cannot be relied upon as an index to condition and investigation has shown that the term "surplus" as used affords no real basis for assurance that such cars are available for service. Many cars listed as "surplus" have in the past been found to be "bad order" when desired for service.

Effective May 1, 1935, an important change in the method of handling car hire settlements was inaugurated by the Association of American Railroads. This change consisted of discontinuing the straight per diem plan of payment for hire of foreign box cars and substituting a system of settling car hire balances on the basis of the average detention of such cars each month during a 3-year test period. Under the new plan it is possible for the railroad upon which a foreign car is made empty to hold the car for a considerable time in anticipation of home route loading without causing any increase in car hire expense; without doubt this will largely offset whatever influence per diem payments may have towards promptly sending foreign box cars home empty.

It is not possible at this time to predict the full effect of this change on either carriers or shippers. One result will probably be some reduction in the cross-haul empty movement, and another will be a substantial disturbance of the per diem balances. The possibiilty of making use of the plan to temporarily curtail repairs to system cars by increasing the use of foreign cars for local loading should not be disregarded and it is not an answer to this to say that car service rules will not permit it to be done. The plan is too new to permit of accurate appraisal at this time, but its possible effect upon car service is such that it deserves careful study.

Bureau of Statistics

It will be noted that the number of annual reports of steam railway companies received for 1934 was 1,218, a decrease of 50 from the number for 1933. Ten years ago the corresponding total was 1,537, the successive annual decreases being explained by abandonment, reorganization, reclassification, and also, recently, the combination of the several reports of affiliated companies into system reports. Some progress has been made during the year in the substitution of system reports covering the entire operations and transactions of a group of affiliated companies in place of separate reports for each legal entity. For 1934, five railway systems filed consolidated reports. Reports in the system form with intercorporate transactions eliminated are needed to give the most reliable account of the earnings, operation, and financial conditions of the companies concerned.

For the purpose of securing a truer statement of the financial condition and income of carriers, the Commission has adopted the policy of requiring consolidated reports in cases where two or more railways are operating in the United States as one system, the reports to be substantially in the form and detail in which such railways are now being required to report separately. The consolidated accounts and supporting schedules will cover the transactions of all the railway companies and the nonoperating lessors which are controlled with substantial completeness, the offsetting intercorporate debits and credits within the system being eliminated from the system statement. When the control of subsidiary railway companies is not substantially complete, the accounts of parent and subsidiary will not be shown in consolidated form.

More complete supplementary schedules will in the future be

required in the annual reports of railways to show the nature of their financial relations with nonrailway corporations within and without the system, and to disclose the financial condition and income of all controlled corporations, whether railway, holding, or other, so far as this may be necessary to obtain a true statement of the financial condition of the railway system itself. The facts relating to the control of railway systems by holding companies or other interests will also be set forth more clearly so far as ascertainable.

The abandonment of railway lines continued, with little new construction, the net result being a decline of 1,846 miles during 1934, to a total of 243,857 at the close of that year. The elimination of obsolete equipment resulted in a reduction of the number of locomotives by 2,805, or 5.17 per cent; in the reduction of the number of freight cars by 99,385, or 4.80 per cent, and in the number of passenger-train cars by 2,793, or 5.86 per cent.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading for the year 1935 exceeded that of any previous year since 1931, according to reports compiled by the Car Service Division of the Association of American Railroads. The total for the year was 31,518,372 cars, an increase of 672,412 cars, or 2.2 per cent, as compared with the total for 1934 and an increase of 2,298,320 cars, or 7.9 per cent, as compared with 1933. The total loading by commodity classifications for 1935 as compared with 1934 was as follows:

	1935	1934	Per Cent Increase	
Grain and Grain Products	1,577,155	1,645,893	4.2	Dec.
Live Stock	714,523	1,074,457	33.5	Dec.
Coal	6,147,373	6,135,428	.2	
Coke	345,895	333,017	3.9	
Forest Products	1,382,940	1,148,929	20.4	
Ore	993,171	793,169	25.2	
Merchandise, L.C.L.	8,121,743	8,241,390	1.5	Dec.
Miscellaneous	12,235,572	11,473,677	6.6	
Total	31,518,372	30,845,960	2.2	

For the week ended December 28 the total was 466,679 cars, an increase of 41,275 cars, or 9.7 per cent, as compared with the corresponding week of last year, although it was a decrease of 132,855 cars as compared with the week before the holiday. All commodity classifications except livestock showed increases over last year's figures. The summary as compiled by the Car Service Division follows:

Revenue Freight Car Loading

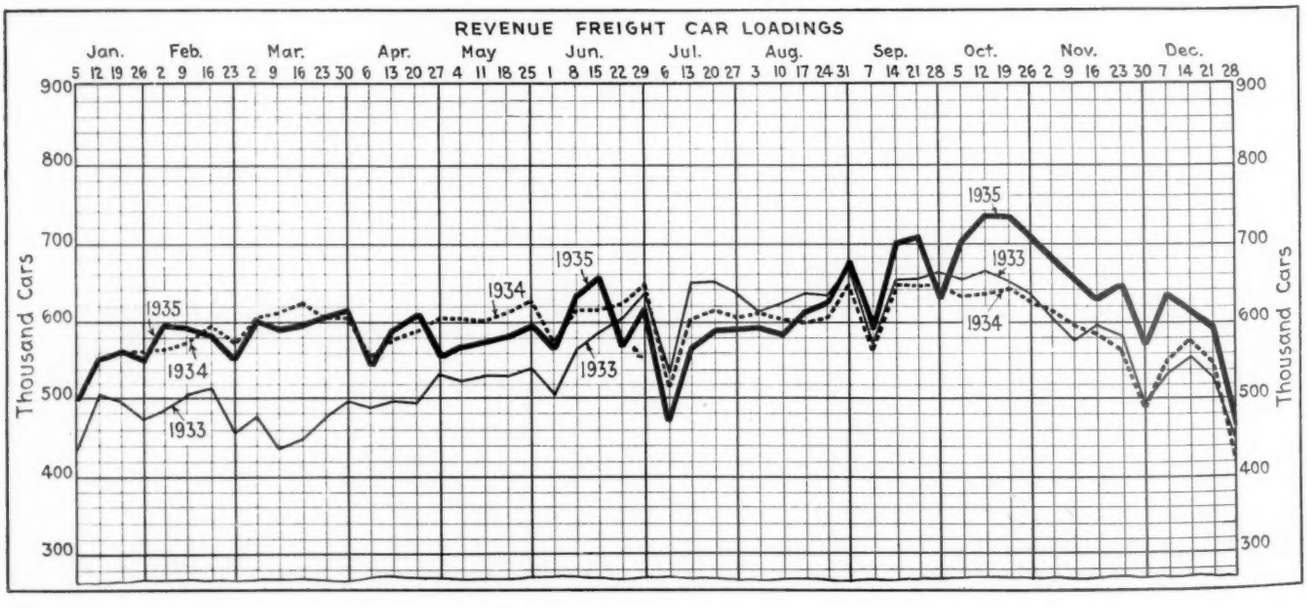
For Week Ended Saturday, December 28

Districts	1935	1934	1933
Eastern	111,779	101,410	105,766
Allegheny	91,006	83,430	91,187
Pocahontas	31,313	29,535	30,908
Southern	65,119	60,948	67,203
Northwestern	54,244	48,610	51,718
Central Western	72,458	66,207	70,340
Southwestern	40,760	35,264	37,643
Total Western Districts	167,462	150,081	159,701
Total All Roads	466,679	425,404	454,765
Commodities			
Grain and Grain Products	19,744	17,941	20,403
Live Stock	9,816	11,358	11,705
Coal	117,574	108,422	116,185
Coke	8,560	5,811	7,142
Forest Products	17,066	11,810	11,807
Ore	3,251	2,196	2,107
Merchandise L.C.L.	119,514	119,478	124,708
Miscellaneous	171,154	148,388	160,708
December 28	466,679	425,404	454,765
December 21	599,534	548,478	531,464
December 14	615,237	580,202	559,419
December 7	637,133	551,485	541,992
November 30	570,427	488,185	599,596
Cumulative Total, 52 Weeks	31,518,372	30,845,960	29,220,052

Car Loading in Canada

Car loadings in Canada for the 52 weeks totaled 2,351,393 in 1935, 2,320,050 cars in 1934 and 2,031,970 cars in 1933 according to the compilation of the Dominion Bureau of Statistics. Total loadings of grain, live stock, coal, coke and lumber were lighter than in 1934 by 10,218 cars, 725 cars, 3,279 cars, 1,470 cars and 710 cars respectively but all other commodities showed substantial increases. Miscellaneous freight increased by 23,699 cars, pulpwood by 6,627 cars, pulp and paper by 5,036 cars, ore by 5,534 cars, other forest products by 3917 cars, and merchandise by 2,932 cars. The total for the week ended December 28 was 30,246, which compares with 29,334 a year ago and 41,650 in the preceding week.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
December 28, 1935	30,246	18,694
December 21, 1935	41,650	23,452
December 14, 1935	42,931	24,173
December 29, 1934	29,334	17,142
Cumulative Totals for Canada:		
December 28, 1935	2,351,393	1,112,592
December 29, 1934	2,320,050	1,101,544
December 30, 1933	2,031,970	954,905



Scheer Elected President of Reading and Central of New Jersey

Successor to the late Charles H. Ewing had been vice-president of these two roads

EDWARD W. SCHEER, whose election to the presidency of the Reading and Central of New Jersey was announced in the *Railway Age* of January 4, had been vice-president of the former since April, 1932, and of the latter as well since July, 1933. In the presidency of the two roads he succeeds the late Charles H. Ewing whose death on December 8 was reported in the *Railway Age* of December 14, page 791, where a photograph of Mr. Ewing, together with a sketch of his railway career, also appeared. The elections of Mr. Scheer took place simultaneously on December 27, 1935, when the Reading board of directors met at Reading Terminal, Philadelphia, Pa., at the same hour that the Central of New Jersey board was meeting at that road's general offices, 143 Liberty street, New York.

Edward W. Scheer

Prior to his election to the Reading vice-presidency in 1932 Mr. Scheer had been a "B. & O. man;" he spent his entire previous railroad career in the service of that road. The Reading owns a majority of the Central of New Jersey's outstanding capital stock and both of these roads were included with the Baltimore & Ohio in the four-system consolidation plan approved by the Interstate Commerce Commission for eastern territory. In his initial association with the Reading Mr. Scheer succeeded the late Mr. Ewing as vice-president in charge of operation and maintenance, when the latter was elected successor to the late Agnew T. Dice in the presidency. Thus Mr. Scheer, as Mr. Ewing's principal executive associate, played a prominent part in the task of guiding the Reading and Central of New Jersey through the more difficult of the depression years.

As pointed out in our December 14 review of Mr. Ewing's career these two roads have come through the trying years in eminently satisfactory fashion and are therefore ready to go forward in the "better times" which appear to be here for the immediate future at least.

The Reading, for example, so held its expenses in check throughout the years of drastic revenue losses as to be able to continue the payment of dividends on its common stock, thus maintaining an unbroken record extending back to 1905. The Central of New Jersey, less fortunate in the face of depression deficits, was nevertheless able substantially to mitigate their effect by an effective control of operating expenses.

Edward Waldemar Scheer was born at Zaleski, Ohio, on April 28, 1875, and received a public school education. Mr. Scheer entered railroad service on February 10, 1890, as messenger in the office of the superintendent of the car department of the Cincinnati, Washington & Baltimore (now the B. & O.). From May, 1890, to December, 1895, he was clerk and stenographer on the Baltimore & Ohio Southwestern (now also a part of the B. & O.), being promoted to chief clerk to the division superintendent on the latter date. In 1899 he became secretary to the vice-president and general manager of the same road at Cincinnati, Ohio, and in February, 1906, he was advanced to chief clerk to general manager and assistant secretary and chief clerk to general superintendent. In June, 1912, he became assistant to general superintendent of the B. & O. Southwestern and of the Cincinnati, Hamilton & Dayton (now part of the B. & O.). Mr. Scheer was appointed superintendent of the Illinois division at Flora, Ill., in June, 1913, and in June, 1915, was transferred to the Indiana division, at Seymour, Ind.

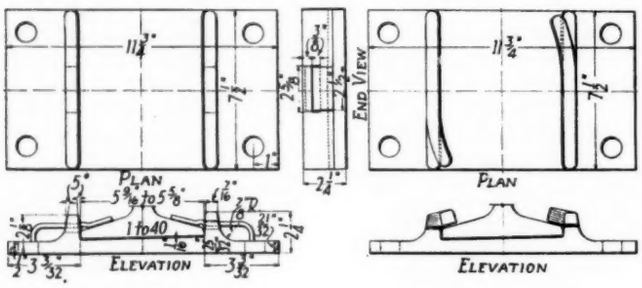
He was promoted to general superintendent, Southwest district, in 1916; in the following year he was assigned to a similar position on the Northwest district, and in February, 1920, he became general superintendent of the Maryland district, all of the Baltimore & Ohio. In April, 1921, Mr. Scheer was advanced to general manager, Eastern Lines, at Baltimore, Md. On April 28, 1932, he was appointed vice-president in charge of operation and maintenance of the Reading, succeeding Mr. Ewing, who was elected president of the Reading on that date. Mr. Scheer was appointed vice-president of the Central of New Jersey on July 20, 1933.

THE LONDON MIDLAND & SCOTTISH OF GREAT BRITAIN has recently placed orders with British manufacturers for approximately 900 highway vehicles. The new equipment is designed to improve the company's existing fleet and also to provide for anticipated increases in traffic. Included are orders for trucks to be used in company business, parcel vans, tractors, trailers, and light and heavy freight trucks.

Develops Two New Designs for Tie Plates

THE development of two different designs of tie plates which represent a further development of the trend toward holding the plate rigidly to the tie independently of the rail fastenings have been announced by the Woodings Forge & Tool Company, Verona, Pa. Both designs are identical in section, but differ in the method employed to fasten the rail. Both have double shoulders which extend about 1¼ in. above the rail seat, and both designs are fastened rigidly to the tie by means of lag screws which do not function as fastenings for the rail.

In one design the opposite ends of the two shoulders are sheared for about 2½ in. at a level 3/16 in. above the top of the rail base, so that after the plates are applied the slit end of each shoulder can be bent inward to hold the rail in place. A special tool is provided for this pur-



Drawings of the New Tie Plates Designed for 112-lb. Rail

pose, which limits the bend and insures the proper clearance between the bent portion of the shoulder and the rail base, thus allowing ample room for the wave motion of the rail.

It is said that experience has demonstrated that the shoulder of these plates can be bent about 50 per cent faster than the corresponding number of track spikes can be driven, and that they will withstand repeated bending through the angle necessary to serve as an effective rail fastening.

In the other design, the shoulders have slots 2⅜ in. wide and ⅜ in. deep, symmetrical about the center line of the plate, the bottom of the slot being approximately at the elevation of the outer edge of the rail base. To hold the rail in place, a flat high-tension clip-shaped spring, 2½ in. wide, is inserted through the slot. The outer end of the spring is turned down to bear on the top of the tie plate, while the opposite end is shaped to bring a flat surface to bear on the top of the base of the rail.

Since the top of the slot is lower than the greater part of the bearing area on the rail base and is also slightly below the upper portion of the outer bent section when the spring is driven into place, considerable pressure is exerted on the rail base; yet it is said that the spring permits a small amount of vertical movement in the rail relative to the tie and tie plate, but exerts marked resistance to longitudinal movement. The spring is provided with a rib which, when it is in place, lies inside of the shoulder of the tie plate, and thus prevents backing out.

Installations of the new type plates have been made or are in progress on the Illinois Central, the Missouri Pacific, the Chicago, Milwaukee, St. Paul & Pacific, the Wheeling & Lake Erie and the Pennsylvania.

Communications . . .

Passenger Traffic Tip for Short-Line Railroads

WASHINGTON, D. C.

TO THE EDITOR:

I firmly believe there are possibilities in a new kind of passenger business over some of our smaller railroads running through picturesque country, even for the average run of people, and without any other special attraction. Give the Sunday motorist a place to park his car, and then give him and his family a two or three hour ride over the road for *pleasure*. Many short lines run no regular Sunday trains, so there would be a minimum interference with regular business. The novelty has long ago disappeared from motor cars, but it's going strong so far as railroads and the younger generation are concerned.

I always felt that such a plan would have made money, at least during the summer, for the narrow-gage roads in Maine, but no one connected with the companies seemed to see it that way. It might have required a little advertising on billboards along the highway—"Ride on the Famous Sandy River Railroad, the Narrowest Gage Road in the United States. Only $1 for a Round Trip Through Some of Maine's Beautiful Forest"—or something of that sort, but I believe it would have worked. I know such a plan is succeeding in the case of the Mount Washington Railway.

HUGH G. BOUTELL.

The Need for More and Better Railroad Advertising

NEW YORK

TO THE EDITOR:

Your article by J. G. Lyne (issue of December 1) on advertising and publicity of the English railroads should give food for thought to American roads.

Not always are advertising departments of railroads filled with trained advertising men, but sometimes with men that by some stroke of fate or promotion landed there.

The steel industry is today showing the effects of the services of trained advertising executives, given enough power to act independently. This move has worked very much to the advantage of the steel industry, as many new fields for the use of steel have been developed and thereby the market for steel is being enlarged.

The necessity of working along similar lines as the steel industry has shown to be helpful appears even more important in the railroad industry, which is faced not only with the question of enlarging markets, but also with regaining lost markets.

Far too little stress has also been laid on modern and artistic appearance of railroad advertising. Modern, brand new and expensive equipment has been advertised with media that appear and read like they had been prepared in the past century, therewith nullifying the purpose of impressing the public.

Some of the Western roads (and also a few Eastern) have to be commended upon the fine posters advertising national parks, but such advertising matter has often failed to get the idea across to "go by train." The posters show too much scenery and too little railroad.

Others seem to think that in giving a printing contract, they can get the "art work" for nothing,—some printing houses even solicit business on this basis. What they actually do get is very mediocre illustrations, executed by some "ham and egg" artist, unfamiliar with railroading, and therefore unable to express it.

There are plenty of good advertising men, artists and production men ready to tackle the railroads' problem with sound enthusiasm. From Mr. Lyne's article it appears that they are at work in England. . . .

The field in this country is even greater, . . . so why not call them in? Other "conservative" industries have shown that it pays.

OTTO KUHLER.
Industrial Designer.

NEWS

Westinghouse Celebrates Its Golden Anniversary

World-wide program for observance of company's fiftieth birthday on January 8

On Wednesday of this week, January 8, the Westinghouse Electric & Manufacturing Company held a world-wide celebration of its fiftieth anniversary. Addresses were made by Chairman A. W. Robertson and President F. A. Merrick to a mass meeting of the employees at Pittsburgh. This meeting was linked up by short wave radio, with similar meetings of Westinghouse employees at cities throughout the nation and over the world, wherever it is represented by factories, offices, warehouses, subsidiaries, or dealers.

The company, which was incorporated January 8, 1886, started operations in the following March in a small factory building in downtown Pittsburgh. Today, fifty years later, it has nineteen plants, employing more than 40,000 people. Its annual sales amount to about $180,000,000, and through the Westinghouse International Company it is represented in more than 80 countries. In place of thirteen items which were listed in its first catalog, it now has hundreds of thousands of items.

At its very outset the company became a strong advocate of the alternating current system, and when only a few years old, it astonished the industrial world by taking the contract for the lighting of the World Columbian Exposition in Chicago, on a rather new and revolutionary basis. This involved the manufacture of 250,000 lamps and the installation of alternating current machinery to provide the power. The success of this project was widely acclaimed. Only two years later, in 1895, the company was awarded a contract for a 5,000-hp. generator at Niagara Falls. In 1899 the Westinghouse Company engaged in the manufacture of a new type of steam turbine. The 400-kw. turbine generator of that day has so developed that in 1935 the company installed a single shaft unit, with a capacity of 165,000 kw.

Included in its great variety of outstanding achievements are a number of special interest to the railways. Among them are the first successful single reduction railroad motor, introduced in 1891; a 50,000-volt transmission line, in 1903; the electrification of the New York terminal of the New York, New Haven & Hartford in 1906; the installation of a 140,000-volt transmission line in 1909; the electrification of the heavy mountain grade section of the Norfolk & Western, and the electrification of the Pennsylvania from Philadelphia to Paoli, in 1915; the introduction of an automatic substation in 1917, which assures adequate power for the peak service required by the railroads; the electrification of the Virginian in 1925; and the building of a Diesel-electric locomotive in 1929.

In 1934 it participated in the building of locomotive and other equipment for the electrification of the Pennsylvania between New York and Philadelphia, and in 1935 equipped the Diesel-electric streamlined Comet for the New York, New Haven & Hartford. While these developments are of outstanding importance, it must be remembered that the company has furnished a wide variety of electrical equipment for use in all departments and in all of the activities of the railroads.

In commenting upon the future, Chairman Robertson said that "rail transportation will not stand still. There are more lines to electrify, where densely populated sections need many fast trains. Diesel-electric streamline trains are already here. Electric trolley buses are providing a specialized service in cities using them. Street cars go faster, are quieter and will carry their mass loads more economically. * * * We may look forward at this period in the history of electrical achievement and consider that we have only opened a door, beyond which we can see a steady advance in the creation of electrical power."

Management and Labor Discuss Unification

Committees representing the Association of American Railroads and the Railway Labor Executives' Association met in Chicago on January 6, to discuss the displacement of workers that would be required in co-ordination projects advocated by Federal Co-ordinator Eastman. Various proposals were presented at the meeting for consideration. After studying the proposals, the committees will hold another meeting probably within two weeks.

Thirty-six Killed in German Collision

Press dispatches from Germany report a disastrous collision at Grossheringen on December 25, where an express and a local passenger train came together, apparently at converging tracks, and several passenger cars were thrown off a bridge into the River Saale. Dispatches are contradictory as to which train was at fault, one or the other having passed a stop signal. The very low temperature at the time hampered the rescue workers and also was the cause of much suffering. Latest reports indicated 36 persons killed and more than that number injured.

Prospects for Transport Legislation Uncertain

Not considered especially bright in pre-election Congress which met January 3

Prospects for much transport legislation at the pre-election session of Congress were not considered especially bright when Congress assembled on January 3 but the number of proposals on the subject now pending and to be offered in the near future is such that considerable activity in that direction was expected. No reference to the state of the railroads was included in the President's address on "the state of the Union" and no new recommendations for legislation, but his recommendation for Interstate Commerce Commission regulation of waterway transportation made during the last session still stands. Co-ordinator Eastman has also prepared a report, which it is understood will renew his recommendations for such legislation, with perhaps some modifications, which is now before the commission for its comments. The waterway bill is before the Senate, having been favorably reported by the committee on interstate commerce, which gave it some consideration last year, but the committee's program for this session is held in abeyance until Chairman Wheeler returns next week from a trip around the world. Proponents of the Pettengill bill to repeal the long-and-short-haul clause are hoping to get the bill before the House for a vote at an early date, as it is now on the calendar with a favorable report from the committee on interstate and foreign commerce.

The railroad labor organizations are planning to press for consideration of their series of bills to increase railroad employment and it is expected that public hearings will begin shortly in connection with Senator Wheeler's investigation of railroad financial matters, on which a corps of investigators has been at work at the Interstate Commerce Commission's offices since mid-summer under the direction of Max Lowenthal, counsel for the Senate committee. In the absence of Senator Wheeler no announcement has been made as to when the hearings will begin or as to whether hearings will be held on his government ownership bill.

Railway Advertising Agents

The annual meeting of the American Association of Railway Advertising Agents will be held at the Union League Club in Chicago on January 17 and 18.

Class I Railroads Show Increased Net Earnings

Expenses for eleven-month period, however, increased relatively more than revenues

Class I railroads for the first eleven months of 1935 had a net railway operating income of $451,701,114, which was at the annual rate of return of 1.85 per cent on their property investment, according to reports compiled by the Bureau of Railway Economics of the Association of American Railroads. In the first eleven months of 1934, their net railway operating income was $426,462,593 or 1.74 per cent. Operating revenues for the eleven months totaled $3,154,269,797, compared with $3,014,059,031 for the same period in 1934, an increase of 4.7 per cent. Operating expenses for eleven months amounted to $2,367,770,363, compared with $2,244,035,154 for the same period in 1934, an increase of 5.5 per cent.

CLASS I RAILROADS—UNITED STATES

	1935	1934	Per Cent of Increase
Month of November			
Total operating revenues	$301,330,508	$256,975,741	17.3
Total operating expenses	218,583,400	196,986,279	11.0
Taxes	18,062,106	17,196,028	5.0
Net railway operating income	54,234,305	32,540,502	66.7
Operating ratio—per cent	72.54	76.66	
Rate of return on property investment—per cent	2.54	1.51	
Eleven Months Ended November 30			
Total operating revenues	$3,154,269,797	$3,014,059,031	4.7
Total operating expenses	2,367,770,363	2,244,035,154	5.5
Taxes	222,353,664	225,801,990	1.5 Dec.
Net railway operating income	451,701,114	426,462,593	5.9
Operating ratio—per cent	75.07	74.45	
Rate of return on property investment—per cent	1.85	1.74	

Dec. = decrease.

Class I railroads in the first eleven months of 1935 paid $222,353,664 in taxes compared with $225,801,990 in the same period in 1934 or a decrease of 1.5 per cent. For November alone, the tax bill amounted to $18,062,106, an increase of $866,078 or five per cent above the same month in 1934.

Twenty-six Class I railroads failed to earn expenses and taxes in the first eleven months of 1935, of which 8 were in the Eastern district, 5 in the Southern and 13 in the Western district.

Class I railroads for November had a net railway operating income of $54,234,305, which, for that month, was at the annual rate of 2.54 per cent. In November, 1934, their net was $32,540,502, or 1.51 per cent. Operating revenues for November amounted to $301,330,508 compared with $256,975,741 in November, 1934, an increase of 17.3 per cent. Operating expenses in November totaled $218,583,400, compared with $196,986,279 in the same month in 1934, or an increase of 11 per cent.

Class I railroads in the Eastern district for eleven months had a net of $279,354,347, at the rate of 2.46 per cent. For the same period in 1934, their net was $251,885,013, or 2.22 per cent. Operating revenues in the Eastern district for eleven months totaled $1,597,160,789, an increase of 4.4 per cent compared with 1934, while operating expenses totaled $1,150,419,995, an increase of 4.1 per cent. Class I railroads in the Eastern district for November had a net of $30,641,053, compared with $20,040,638 in November, 1934.

Class I railroads in the Southern district for eleven months had a net of $48,183,080, at the rate of 1.64 per cent. For the same period in 1934 their net amounted to $47,953,479, at the rate of 1.62 per cent. Operating revenues in the Southern district for eleven months amounted to $392,164,217, an increase of 4.7 per cent compared with the same period in 1934, while operating expenses totaled $308,712,919, an increase of 6.4 per cent. Class I railroads in the Southern district for November had a net of $5,390,060, compared with $4,296,536 in November, 1934.

Class I railroads in the Western district for eleven months had a net of $124,163,687, at the rate of 1.23 per cent. For the same eleven months in 1934 they had a net of $126,624,101, at the rate of 1.24 per cent. Operating revenues in the Western district for eleven months amounted to $1,164,944,791, an increase of 4.9 per cent above the same period in 1934, while operating expenses totaled $908,637,449, an increase of 7.1 per cent. For November the railroads in the Western district reported a net of $18,203,192, compared with $8,203,328 for the same roads in November, 1934.

Progress in Grade Crossing Program

Plans for grade crossing projects to the amount of $55,238,000 had been approved by the Bureau of Public Roads up to January 4 and contracts had been awarded to the amount of $25,828,648, including $961,909 during the week.

Wage Statistics for October

Class I railroads excluding switching and terminal companies reported to the Interstate Commerce Commission a total of 1,016,777 employees as of the middle of October, an increase of 5,094, or 0.5 per cent, as compared with the number reported for October, 1934. The total number of hours paid for was 2.99 per cent greater and the total compensation, $147,515,197, was 11.26 per cent greater than in October, 1934. The number of employees who received pay during the month was 1,123,490, an increase of 3,639 over the number in September and of 287 over the number in October, 1934.

Beatty No Advocate of "Emergency" Rate Boosts

Canadian roads decided that was not the way to restoration of revenues, he says

Sir Edward Beatty, president of the Canadian Pacific, addressed a joint dinner given by the Advertising Club, the Canadian Club and the Chamber of Commerce of Hamilton, Ontario, last week on the general subject of freight rates and their relation to Canadian business generally. Sir Edward stated that under the Canada Railway Act power was given the Board of Railway Commissioners to prevent the railways from charging freight rates except in accordance with the act and the responsibility for fixing freight rates remained that of the railway companies.

Sir Edward emphatically pointed out that he was in no way questioning either the authority or competence of the board or its staff. While opposed in general to governmental interference in business, he fully believed in the necessity and value of the board and had nothing but praise to record concerning the judicial wisdom of those who sat on it and the technical skill and competence of its employees. Public utilities, he said, had the privilege of conducting semi-monopolistic services affecting the life of all the nation, and in a democratic country they must be controlled by public authority. On that basis the board was necessary and had been of great benefit to both the country and the railways. That, however, did not mean that the existence of the board had been the factor which had kept Canadian railways from undue and unwise exploitation of their semi-monopolistic power.

"It is strictly true," said Sir Edward, "that railway freight rates are fixed on the basis of what the traffic will bear. This is no indictment of the railways. It is a statement of such simple common sense that I should not have to defend it. Every industry in the country decides the price and quantity of goods offered for sale exactly as railway companies do.

"What the traffic will bear is the principle which every merchant adopts in pricing his goods so that the country can and will buy them; the principle which sets professional charges and the wages of labor," and, he added, it was the duty of railway officers to find out what transportation people wanted to buy and what they would pay for it exactly as was done in the case of other goods and services. He pointed out, however, that where other people could sell "loss leaders," railways could not. They could offer discount for quantity, but only in certain limits, and not to the benefit of any one shipper and to the exclusion of others. They could not offer private reductions to large customers without informing their competitors and they could not offer low rates to customers in consideration of receiving all their business. These, he intimated, were proper limitations and not merely stupid laws. He stressed various other objections to reckless reduction of rates in-

(*Continued on page 128*)

I. C. C. Having Difficulty Finding Trucks to Regulate

Sends representatives to transport centers to help motor carriers prepare applications

The Interstate Commerce Commission's new Bureau of Motor Carriers is experiencing some difficulty in locating the truck and bus operators it is expected to regulate under the motor carrier act of 1935. The law was to be effective on October 1 but it has been necessary to postpone the effective dates of its most important provisions and although the forms on which operators are required to file applications for certificates and permits under the "grandfather" clause in order to preserve their rights to their present routes were distributed several weeks ago comparatively few have yet been filed. By the first of the year only about 2,000 applications were in and the date for filing them expires on February 12.

Partly in an effort to hasten the filing of applications, as well as to co-operate with motor carriers in preparing their applications and in other ways in connection with the administration of the law, the bureau has sent out about thirty of its representatives to visit the principal transportation centers of the country.

On January 2 in response to numerous requests from motor carriers and their associations for additional time in which to compile their tariffs and schedules the Interstate Commerce Commission, by Division 5, entered an order further extending the effective date of Sections 216, 217, 218, 219 and 223 of the motor carrier act, 1935. These sections deal with the filing and observance of tariffs and schedules showing rates, fares and charges, for transportation by motor carriers subject to the act, and related matters, as well as the issuance of receipts or bills of lading and collection of charges. The general effect of this further postponement is to require that tariffs and schedules be filed with the commission on or before March 2, 1936, and to require that the rates, fares and charges for transportation as shown by the tariffs and schedules so filed be effective on April 1.

The commission has not as yet completed its rules and regulations to govern the construction, filing and posting of tariffs and schedules but expected to complete and publish such rules and regulations within a few days. Much time has been spent on these rules in the endeavor to make them as simple and easy to follow as possible.

Attention was called to the fact that the commission has provided that the rates, fares and charges as shown by the tariffs and schedules shall be effective on April 1, 1936. This is the limit of the commission's authority to extend the effective time of any provision of the motor carrier act.

Attention was also directed to the fact that the rules and regulations to be issued by the commission to govern the construction, filing and posting of tariffs and schedules will not prescribe the rates, fares, and charges of motor carriers but only the form and construction of the tariffs and schedules. The amount or measure of the rates, fares, or charges shown by these initial tariffs and schedules must be determined under the law by the motor carriers themselves and not by the commission.

The commission on January 3 issued a notice announcing that if serious delays are encountered in obtaining certified copies of orders of state authorities authorizing operations or statements of registration under the N.R.A. codes for the truck or bus industries, which are required with applications under the "grandfather" clause as part of the proof of operation on and after the applicable statutory date, it will receive and file such applications without such documents being attached at the time, upon the understanding that certified copies and certificates be forwarded and filed as soon as they can be obtained by applicants. Because of the heavy demand which probably will be made upon state authorities and those in possession of code authority records for such documents, it was thought that there might be such delays in obtaining them as seriously to jeopardize the ability of motor carriers to file their applications by February 12, as required for a preservation of rights under the provisions of the act.

Commissioners Aitchison and Porter Reappointed

In accordance with his recent announcement President Roosevelt has sent to the Senate the nominations of Clyde B. Aitchison and Claude R. Porter, whose terms expired on December 31, for reappointment as members of the Interstate Commerce Commission for seven-year terms expiring in 1942.

At the same time the President sent up nominations covering his recess appointments of Murray W. Latimer, James A. Dailey, and Lee M. Eddy as members of the Railroad Retirement Board and of Otto S. Beyer as a member of the National Mediation Board.

Pension Commission Makes Perfunctory Report

The special commission provided for in the railroad retirement act, which was to make a thorough investigation of the subject of railroad pension systems and "desirable provisions of a sound retirement and annuity system," went out of existence on December 31 after filing with the President a report stating that it had been organized too late to make more than a brief study of the subject, and making no suggestions or recommendations. At one time the special commission had been proposed to make the study before further legislation on the subject was enacted but as the railroad pension bills were passed the provision for the commission was included also. However, the members to be appointed by the President were not appointed until some time in December and the commission found it impossible to go very far into the subject in the time allowed by the law for its report. The retirement act becomes effective on March 1 but the railroads are expected to seek an injunction in the courts before that date.

Budget Recommendations; I.C.C. and Other Agencies

Several large transport items in addition to allowance for regulatory body

Appropriations amounting to $7,246,350 for the work of the Interstate Commerce Commission in the fiscal year ending June 30, 1937, are proposed in the federal budget transmitted to Congress on January 6 by President Roosevelt. This is an increase of $1,395,894 as compared with the appropriation for the 1936 fiscal year, resulting mainly from the new duties imposed on the commission by the motor carrier and air mail acts. For administration of the motor carrier act $1,700,000 is recommended, although the commission had submitted an estimate of $3,000,000 for the purpose. There is also a reduction of $241,100 in the amount allotted for valuation work, $800,000 as compared with $1,041,100 appropriated for this year.

The item for the commission is comparatively so small as to be difficult to find in the tabulation of the more than five billions which the President said he would need to run the regular activities of the government, in addition to another billion of unexpended balances of emergency appropriations which he had the forethought to ask for last year, but several large figures pertaining to transportation are included in other items of the budget.

There is an estimate of $150,000,000 for railroad loans by the Reconstruction Finance Corporation for 1937, as compared with an estimate of $193,000,000 for 1936 and an actual amount of $75,185,328 for 1935.

Under the head of the Public Works Administration no estimate is made for railroad loans in 1937, although $198,620,506 is listed as having been authorized up to October 15, 1935, of which $83,542,378 was unexpended on that date, and $40,000,000 is estimated for 1936. This bears out the expectation that the P.W.A. would liquidate its loans as rapidly as possible, by selling them to the R.F.C. for resale to the public, and that future railroad loans would be made by the R.F.C.

An estimate is also given of repayments of $15,000,000 in 1936 and $5,000,000 in 1937, as compared with $14,602,710 in 1935.

An appropriation of $47,645,000 to be expended by the Railroad Retirement Board in 1937, including $46,620,000 for the retirement fund and $1,025,000 for administrative expenses, printing and binding, is included in the budget estimate and it is estimated that the excise taxes on the railroads and the income taxes on their employees will yield $33,000,000 in 1936 and $102,000,000 in 1937.

No estimate is made for the federal coordinator of transportation for 1937, as his term expires on June 16. His expenditures for 1936 are estimated at $527,000 and those for 1935 are stated as $526,146.

For the National Mediation Board the budget includes $372,500 for 1937, as compared with $336,450 for 1936 and $277,314 for 1935.

For the Alaska Railroad fund $200,000

is recommended for 1937, as compared with $250,000 for 1936.

Regarding the Interstate Commerce Commission appropriation the budget includes the following explanations:

"For administrative expenses a net decrease of $252,465 is shown for 1937, which includes decreases of $134,640 for air-mail-contract work, for which a separate item of appropriation is proposed for 1937; $52,254 for the expenses of the sections of mails and files, docket, stenography, supplies and publications, and disbursement and appointments; $63,651 for expenses of the formal docket of the commission; and miscellaneous items totaling $41,900. For the expenses of the commissioners and their offices an increase of $19,980 is provided; as well as an increase of $20,000 for official reporting. The estimate of $852,000 for regulating accounts is the same as the amount appropriated for that purpose for the current year. The item for safety of employees is $8,195 less than the appropriation for 1936 because of a decrease in the expense of safety appliances inspections. For signal safety systems a decrease is shown of $1,132 below the current year appropriaton due to a decrease in the expense of inspection of signal systems. For locomotive inspection the estimate for 1937 is $11,238 below the appropriation for the current year due to a decrease in the expense of field inspection, allowances for rent, clerical assistance, etc. While the estimate providing for the valuation of property of carriers is $241,100 below the current appropriation, it is anticipated that the commission will be able to currently revise its valuation data and proceed with the valuation of pipe lines now in progress.

"The estimates for 1937 include a new item of appropriation for air-mail work of $160,000. The duties delegated to the commission by this act are greater than those assigned to it by former laws relating to the transportation of air mail.

"The estimates for 1937 also include a new item of appropriation of $1,700,000 for the administration of the motor carrier act, approved August 9, 1935, which provides for the regulating of interstate transportation by motor carriers. This estimate provides for 326 departmental employees and 146 field employees with salaries aggregating $1,271,500, and $428,500 for travel, rentals, and other expenses. The 1937 estimate for printing and binding for the commission exceeds the appropriation for 1936 by $50,000, which additional amount is required to take care of printing and binding incidental to the administration of the motor carrier act."

The amounts recommended in the budget were also recommended by the House appropriations committee in reporting the independent office bill on January 7.

The deficiency appropriation bill for 1936, including appropriations for the administration of the motor carrier act, which was passed by the House last summer but not by the Senate, has been recommitted to the Senate appropriations committee for reconsideration.

"Mark Twain" Speeded Up

The Mark Twain of the Chicago, Burlington & Quincy has been speeded up 25 min. in its run from Burlington, Iowa, to St. Louis, Mo., and 20 min. returning, the train now running on a schedule of 5 hr. 30 min. southbound and 5 hr. 25 min. northbound for the 221 miles. Northbound there are 13 intermediate scheduled stops and 16 flag stops, and southbound, 14 regular stops and 18 flag stops.

Reading Tickets Good on B. & O. Trains

According to an announcement in the Official Guide, tickets issued by the Reading and the Central of New Jersey, between New York and Philadelphia, will be valid on the trains of the Baltimore & Ohio, which run over the Reading-Central tracks between Jersey City and Philadelphia, with the exception of commutation tickets and those restricted to certain trains. This arrangement applies not only at the termini but also in Jersey City, Newark, Elizabeth, Plainfield and Wayne Junction. Passengers to or from New York, using Baltimore & Ohio trains, under this arrangement will be entitled to the B. & O. motor-coach service, by which passengers are taken to and from Forty-second street and three other points in Manhattan. The Baltimore & Ohio operates eight through passenger trains each way daily over the Reading-Central lines.

Net Deficit For Ten Months $35,408,693

As a result of improved earnings in October the net deficit of the Class I railroads for the ten months ended with October after deduction of fixed charges amounted to $35,408,693, as compared with $27,645,202 in the corresponding period of 1934. At the end of September the net deficit for the year was $80,292,512, as compared with $32,724,356 in the corre-

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 143 Reports (Form IBS) Representing 149 Steam Railways

TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of October 1935	For the month of October 1934	*Income Items*	For the ten months of 1935	For the ten months of 1934
$75,425,093	$49,336,305	1. Net railway operating income	$397,458,302	$393,922,009
12,196,536	13,371,466	2. Other income	128,022,747	143,302,870
87,621,629	62,707,771	3. Total income	525,481,049	537,224,879
1,512,638	1,586,554	4. Miscellaneous deductions from income	14,345,239	17,012,610
86,108,991	61,121,217	5. Income available for fixed charges	511,135,810	520,212,269
		6. Fixed charges:		
11,437,714	11,188,395	6-01. Rent for leased roads	111,571,856	111,428,056
42,216,978	42,437,907	6-02. Interest deductions	422,709,364	423,975,380
223,261	233,684	6-03. Other deductions	2,240,122	2,431,506
53,877,953	53,859,986	6-04. Total fixed charges	536,521,342	537,834,942
32,231,038	7,261,231	7. Income after fixed charges	§ 25,385,532	§ 17,622,673
1,003,005	1,002,917	8. Contingent charges	10,023,161	10,022,529
31,228,033	6,258,314	9. Net income*	§ 35,408,693	§ 27,645,202
16,253,597	15,454,717	10. Depreciation and retirements	161,370,725	158,491,469
2,458,654	1,387,129	11. Federal income taxes	15,250,669	13,610,801
		12. Dividend appropriations:		
107,911	1,226,052	12-01. On common stock	58,222,676	69,162,566
990,060	570,636	12-02. On preferred stock	13,645,380	13,653,311

Selected Asset Items	Balance at end of October 1935	Balance at end of October 1934
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$735,229,084	$804,871,687
14. Cash	$436,285,999	$329,476,685
15. Demand loans and deposits	16,053,106	38,936,028
16. Time drafts and deposits	32,121,928	38,467,722
17. Special deposits	65,537,324	47,592,878
18. Loans and bills receivable	4,175,391	6,299,383
19. Traffic and car-service balances receivable	62,505,289	54,646,439
20. Net balance receivable from agents and conductors	49,649,215	45,457,550
21. Miscellaneous accounts receivable	138,139,656	156,371,179
22. Materials and supplies	281,082,105	303,664,837
23. Interest and dividends receivable	36,069,056	46,425,029
24. Rents receivable	3,083,189	3,885,664
25. Other current assets	5,434,039	4,248,482
26. Total current assets (items 14 to 25)	$1,130,136,297	$1,075,471,876
Selected Liability Items		
27. Funded debt maturing within 6 months†	$251,969,992	$122,657,622
28. Loans and bills payable‡	$345,063,977	$304,469,998
29. Traffic and car-service balances payable	80,779,417	69,144,933
30. Audited accounts and wages payable	225,534,340	212,061,210
31. Miscellaneous accounts payable	56,587,838	65,294,212
32. Interest matured unpaid	395,235,411	303,883,333
33. Dividends matured unpaid	4,647,524	4,737,470
34. Funded debt matured unpaid	322,791,871	273,362,903
35. Unmatured dividends declared	1,879,881	1,407,296
36. Unmatured interest accrued	110,563,151	110,572,591
37. Unmatured rents accrued	37,963,008	37,296,815
38. Other current liabilities	19,117,800	17,562,115
39. Total current liabilities (items 28 to 38)	$1,600,164,218	$1,399,792,876
40. Tax liability (Account 771):		
40-01. U. S. Government taxes	$35,856,707	$33,728,533
40-02. Other than U. S. Government taxes	150,335,308	159,276,332

* October, 1935, income, as reported, was increased by credits to operating expenses on account of reversal of charges previously made for liability under the Railroad Retirement Act. These credits for October, 1935, amounted to $453,636, and for the ten months ended with October, 1935, the net credit is $7,738,061. For October, 1934, the reported net income includes charges because of the Retirement Act amounting to $2,835,943, and for the ten months ended with October, 1934, the charges included are $8,411,466.

† Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within six months after close of month of report.

‡ Includes obligations which mature not more than two years after date of issue.

§ Deficit.

NET INCOME OF LARGE STEAM RAILWAYS WITH ANNUAL OPERATING REVENUES ABOVE $25,000,000

Name of railway	Net income after depreciation and retirements, For the 10 months of 1935	Net income after depreciation and retirements, For the 10 months of 1934	Net income before depreciation and retirements, For the 10 months of 1935	Net income before depreciation and retirements, For the 10 months of 1934
Alton R. R.	*$2,081,964	*$1,274,823	*$1,800,263	*$1,128,151
Atchison, Topeka & Santa Fe Ry. System†	5,491,025	6,312,960	14,911,934	15,909,488
Atlantic Coast Line R. R.	* 1,699,104	* 77,382	198,725	1,648,355
Baltimore & Ohio R. R.	* 2,595,151	* 2,857,322	3,320,912	3,529,777
Boston & Maine R. R.	* 385,974	* 640,142	998,788	697,367
Central of Georgia Ry.	* 1,929,288	* 2,178,155	* 1,242,017	* 1,524,253
Central R. R. of New Jersey	* 1,673,668	* 1,151,203	* 284,113	430,625
Chesapeake & Ohio Ry.	24,617,548	23,504,259	31,496,058	29,447,112
Chicago & Eastern Illinois Ry.	* 1,405,987	* 1,426,736	* 899,183	* 1,083,799
Chicago & North Western Ry.	*10,093,222	* 6,623,414	* 5,806,670	* 2,851,734
Chicago, Burlington & Quincy R. R.	* 986,155	3,595,638	2,919,972	6,246,151
Chicago Great Western R. R.	* 942,615	* 486,254	* 510,339	* 66,148
Chicago, Milwaukee, St. Paul & Pacific R. R.	*16,658,465	*13,090,410	*12,037,484	* 7,755,186
Chicago, Rock Island & Pacific Ry.	*12,412,767	* 9,557,305	* 8,659,743	* 5,703,209
Chicago, St. Paul, Minneapolis & Omaha Ry.	* 2,031,922	* 1,326,500	* 1,505,742	* 858,731
Delaware & Hudson R. R.	* 2,210,096	* 2,744,167	* 1,316,700	* 1,821,267
Delaware, Lackawanna & Western R. R.	* 2,795,367	* 1,358,101	* 475,718	758,734
Denver & Rio Grande Western R. R.	* 3,269,986	* 2,382,365	* 2,273,035	* 1,527,495
Elgin, Joliet & Eastern Ry.	934,674	* 749,678	1,684,649	14,465
Erie R. R. (including Chicago & Erie R. R.)	* 815,295	185,445	2,587,238	3,943,050
Grand Trunk Western R. R.	* 484,394	* 1,147,502	410,638	* 371,726
Great Northern Ry.	5,186,225	* 2,097,698	8,036,135	874,869
Illinois Central R. R.	* 3,452,343	* 1,058,268	2,257,855	4,521,952
Lehigh Valley R. R.	* 1,895,717	* 1,852,727	151,234	* 235,933
Long Island R. R.	* 1,016,165	236,760	* 102,700	1,053,842
Los Angeles & Salt Lake R. R.	259,279	699,234	846,182	1,305,896
Louisville & Nashville R. R.	3,043,793	2,358,722	6,585,946	5,823,579
Minneapolis, St. Paul & Sault Ste. Marie Ry.	* 4,370,744	* 4,219,130	* 3,407,167	* 3,005,529
Missouri-Kansas-Texas Lines	* 2,795,238	* 2,039,119	* 1,716,343	* 1,217,385
Missouri Pacific R. R.	*13,048,558	*11,068,932	* 9,474,929	* 7,089,345
New York Central R. R.‡	* 5,120,979	* 5,423,877	8,769,490	7,347,656
New York, Chicago & St. Louis R. R.	629,074	215,930	1,997,896	1,367,804
New York, New Haven & Hartford R. R.	* 2,843,640	* 4,378,042	43,275	* 1,027,603
Norfolk & Western Ry.	19,948,181	16,840,065	23,381,499	21,201,877
Northern Pacific Ry.	* 5,408,820	* 2,429,885	* 2,691,585	* 9,574
Oregon Short Line R. R.	1,551,159	954,957	2,386,646	1,878,653
Oregon-Washington R. R. & Navigation Co.	* 2,220,662	* 2,354,093	* 1,740,313	* 1,840,565
Pennsylvania R. R.	18,174,176	18,312,670	35,822,596	35,761,391
Pere Marquette Ry.	948,864	* 245,187	3,101,403	1,623,629
Pittsburgh & Lake Erie R. R.	2,620,934	2,286,419	4,140,188	4,231,855
Reading Co.	4,023,674	4,837,620	6,622,753	7,430,732
St. Louis-San Francisco Ry.	* 8,932,233	* 7,373,289	* 6,336,563	* 4,783,109
St. Louis Southwestern Lines	* 541,450	* 760,328	* 21,335	* 336,633
Seaboard Air Line Ry.	* 6,329,204	* 6,783,053	* 4,765,754	* 5,323,228
Southern Ry.	* 2,505,193	* 3,531,369	37,842	* 976,225
Southern Pacific Transportation System§	372,121	* 923,214	6,740,054	5,521,236
Texas & Pacific Ry.	902,356	832,270	1,911,363	1,835,273
Union Pacific R. R.	12,140,914	15,304,034	15,510,301	18,996,594
Wabash Ry.	* 2,480,651	* 2,727,627	* 663,314	* 1,238,621
Yazoo & Mississippi Valley R. R.	* 971,677	* 1,844,609	* 515,456	* 1,379,661

† Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.

‡ Includes Boston & Albany, Michigan Central, and Big Four Lines, lessors to New York Central R. R.

§ Includes Southern Pacific Company and Texas & New Orleans R. R.

* Deficit.

sponding period of 1934, but the net railway operating income showed a large increase in October and for that month the roads had a net income after charges of $31,228,033, as compared with a net income in October, 1934, of $6,258,314. Total current liabilities at the end of October, however, amounted to $1,600,164,218, an increase of over $200,000,000 during the year, while total current assets were only $1,130,136,297. Sixteen of the 50 roads having annual operating revenues above $25,000,000 had a net income for the ten months after fixed charges, depreciation, and retirements. The commission's summary for 149 railroads appears in the accompanying table.

Decorated Dining Cars

The Pennsylvania has just put in service a dining car, the interior of which is decorated with the coats of arms of thirteen states, and the District of Columbia—that is to say, the territory traversed by the company's lines. The car will be assigned to different trains for short periods, so that it may be displayed to all parts of this railroad company's public. These emblems have been painted by hand and appear in the panels between the windows and in the end panels. They are the symbols of the following states: New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, Kentucky, Ohio, Indiana, Michigan, Illinois, Missouri, and the District of Columbia.

Equipment Installed

Class I railroads in the first eleven months of 1935, installed 6,754 new freight cars, according to reports compiled by the Association of American Railroads. In the same period last year, 22,951 new freight cars were placed in service, and, in the same period two years ago, there were 1,874. Thirty-one new steam locomotives and 102 new electric locomotives were placed in service in the eleven months. The railroads in the first eleven months of 1934, installed 40 new steam locomotives and 26 new electric locomotives.

New freight cars on order on December 1 totaled 4,490 compared with 1,771 on the same day in 1934 and 125 on the same day in 1933. The railroads on December 1 also had on order 14 new steam locomotives and 3 new electric locomotives. New steam locomotives on order on December 1, 1934, totaled 23, and on the same date in 1933, there was one. New electric locomotives on order on December 1, 1934, totaled 95. No reports are available as to the number on order on December 1, 1933. Freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Sorrell to Address New York Railroad Club

Dr. Lewis C. Sorrell, professor of traffic and transportation at the University of Chicago, will address the New York Railroad Club at its next meeting to be held on January 17 at the auditorium of the Engineering Society's building, 29 West Thirty-ninth street, New York. Dr. Sorrell will take as his subject "Public Responsibility Toward Regulated Industry."

Special Agents Elect Officers

The following officers of the Chicago Railway Special Agents and Police Association have been elected for the ensuing year: President, A. A. Martz, superintendent of railroad police of the Pennsylvania; vice-president, W. I. Stitler, chief of police of the Chicago, Indianapolis & Louisville; and secretary-treasurer, Walter J. Fetzner, assistant chief of police of the Chicago, Burlington & Quincy.

Metropolitan Traffic Association of New York

Charles E. Cotterell, commerce attorney, will be the speaker on January 9 at the first of a series of educational meetings to be conducted by the Metropolitan Traffic Association of New York. The meeting will be held at the Midston House, Madison avenue and Thirty-eighth street, New York, and Mr. Cotterell will discuss the federal motor carrier act.

Accounting Classifications Modified

The Interstate Commerce Commission has issued a series of modifications in its classifications of investment in road and equipment, operating revenues and operating expenses, income and profit and loss, and general balance sheet accounts, effective on January 1. On petition of the Association of American Railroads it has postponed to January 1, 1937, the effective date of a recent order prescribing changes in the accounts for "ballast."

Personnel Changes in National Railroad Adjustment Board

L. O. Murdock, assistant to the executive vice-president of the Chicago, Burlington & Quincy, in charge of labor matters, has been appointed a member of Division 3 of the National Railroad Adjustment Board, to succeed E. W. Fowler, who has been transferred to Division 1, to replace Macy Nicholson, who has resigned.

R. A. Knoff, superintendent of the labor and wage board of the Central region of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been appointed a member of Division 1 of the National Railroad Adjustment Board.

Railroad Credit Corporation

The Railroad Credit Corporation had $46,389,249 of loans outstanding at the close of the year, according to the corporation's report filed with the Interstate

Commerce Commission. The loans originally made to participating carriers amounted to $73,691,368. The reduction of $27,302,119 in the loans was brought about by repayments of $11,522,292, credits of $15,694,270 from distributions made by the corporation, applied tax refunds $32,589, and miscellaneous, $52,968. Through 23 liquidating distributions, totalling $29,435,398, which included cash payments of $13,593,658, the corporation has returned 40 per cent of the contributed fund to the participants in the plan.

A. T. A. Asks Suspension of Western Storedoor Tariffs

The American Trucking Associations, Inc., has filed a protest with the Interstate Commerce Commission, asking it to suspend the tariffs of Western railroads proposing the establishment of storedoor pick-up and delivery service.

N. C. & St. L. to Offer Unrestricted Pick-up and Delivery Service

The Nashville, Chattanooga & St. Louis plans, beginning January 20, to provide free pick-up and delivery service with no restrictions as to distance, point of origin or destination. Authority has been applied for in order to adopt the tariffs on short notice. Hitherto the carrier has had a limited pick-up and delivery service. Following this action the Illinois Central announced that on the same date it will establish free pick-up and delivery service throughout its entire system. On both railroads an allowance of five cents per hundred pounds will be made when shippers or consignees perform the trucking service.

Purdue Dean to Head American Engineering Council

Dr. A. A. Potter, dean of the Schools of Engineering, Purdue University, has been unanimously nominated as president of the American Engineering Council for 1936 and 1937, to succeed J. F. Coleman, of New Orleans. Dean Potter was to take office at the annual meeting of the council on January 9, 10, and 11, when representatives of national, state, and local engineering societies convened in Washington.

Dean Potter is a past-president of the American Society of Mechanical Engineers, the Society for the Promotion of Engineering Education, the Indiana Engineering Society, and the Kansas Engineering Society, which are member bodies of the national Council.

Conference on National Transportation Organized

Permanent organization of the Conference on National Transportation was effected at a meeting of representatives of the National Industrial Traffic League, the American Trucking Associations, Inc., and the Association of American Railroads at Washington on January 6 with a purpose: "To formulate plans by which the respective groups can co-operate to promote orderly and harmonious action in respect to rates and practices."

L. F. Orr, chairman of the highway transportation committee of the National Industrial Traffic League, was elected permanent chairman, and John V. Lawrence, general manager of the American Trucking Associations, Inc., permanent secretary. The conference will hold monthly meetings. The next meeting will be February 5.

In addition to the officers mentioned, the following participated in the meeting: H. A. Hollopeter, Terre Haute, Ind., Chamber of Commerce; Francis J. Dowd, New York City; E. S. Gubernator, Lehigh Portland Cement Company, Allentown, Pa.; and E. L. Hart, Southern Traffic League, Atlanta, Ga., for the shippers; Frank I. Hardy, Boston, Mass.; Ted V. Rodgers, Scranton, Pa.; H. D. Horton, Charlotte, N. C.; and Wade T. Childress, St. Louis, for the truck operators; and J. M. Symes, vice-president in charge of operations and maintenance, and A. F. Cleveland, vice-president in charge of traffic, for the Association of American Railroads.

Steam Railway Accident Statistics September, 1935

The Interstate Commerce Commission completed statistics of steam railway accidents for the month of September, 1935, now in preparation for the printer, will show:

Item	Month of September 1935	Month of September 1934	9 months ended with September 1935	9 months ended with September 1934
Number of train accidents	491	447	4,704	4,570
Number of casualties in train, train-service, and nontrain accidents:				
Trespassers:				
Killed	296	258	2,168	2,111
Injured	297	309	2,464	2,560
Passengers on trains:				
(a) In train accidents*				
Killed	....	....	....	9
Injured	2	29	302	232
(b) In train-service accidents				
Killed	2	....	15	8
Injured	124	136	1,124	1,108
Travelers not on trains:				
Killed	....	....	6	9
Injured	46	57	448	503
Employees on duty:				
Killed	35	34	397	400
Injured	1,349	1,339	11,885	12,724
All other non-trespassers:†				
Killed	161	122	1,210	1,149
Injured	511	467	4,185	4,141
Total-All classes of persons:				
Killed	94	414	3,796	3,686
Injured	2,329	2,337	20,408	21,268

* Train accidents are distinquished from train-service accidents by the fact that the former cause damage of more that $150 to railway property.

† Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Number of accidents	309	281	2,600	2,551
Persons:				
Killed	144	116	1,127	1,067
Injured	390	336	3,085	2,947

Inland Waterways Corporation Reports Increased Traffic in 1935

The Inland Waterways Corporation through its president, Major General T. Q. Ashburn, has submitted a preliminary report to the Secretary of War showing the financial result of its operation of transportation facilities during the calendar year 1935. The consolidated net income of its subsidiaries the Federal Barge Lines and the Warrior River Terminal Company amounted to $640,734 for 1935, as compared with an operating deficit of $896,959 for 1934. This was an upturn of $1,537,693, and was accomplished by a greater volume of freight handled at a higher average revenue per ton and decreased expenses per ton.

The Federal Barge Lines transported 1,747,499 tons of freight in 1935, as compared with 1,483,859 tons handled in 1934, an increase of 18 per cent. The average revenue per ton for 1935 was $3.45, as compared with $2.95 for 1934. Expenses per ton amounted to $3.12 for 1935, as compared with $3.57 for 1934. The corporation actually received funds from its operating subsidiaries during 1935 in the amount of $1,236,745, consisting of net income $640,734 and depreciation $596,011.

State Ownership of South Jersey Rail Lines Suggested

The South Jersey Transit Authority has voted to recommend that the state acquire all railroad lines in its southern area, according to a recent announcement of Col. Clifford M. Elwell, chairman of the Authority. The proposals will be submitted to the 1936 legislature.

Col. Elwell reported that the Authority, which was appointed last year by Governor Hoffman, decided upon the public ownership proposal at a recent meeting. The estimated cost of the acquisition was placed at about $100,000,000 and the Authority's recommendation is based mainly upon the alleged failure of the railroads to give adequate service in the communities involved.

The Transit Authority is convinced, Colonel Elwell said, that by scrapping present motive power and rolling stock and substituting new Diesel-electric power and lighter cars the roads could be profitably operated. The southern part of the State is suffering from reduced transportation facilities, he said, both for freight and for passenger business.

Colonel Elwell also recommended regulation of working hours for men in the truck transportation industry and the application of similar restrictions on truck owners as those in force in the regulation of the railroad business.

Beatty No Advocate of "Emergency" Rate Boosts

(*Continued from page 124*)

cluding the important point that in a buyer's market reductions seldom or never go to the producer.

To permit railways to fix rates without legal limit would be to leave them free to favor individuals, corporations or communities even to the extent of ruining others. It was because of a prevalency of this sort of discriminatory rate reduction, especially in the United States, that public regulation of railway rates was introduced. Sir Edward pointed out that many of the applications made to the Board of Railway Commissioners were really protests against reductions of rates.

"The fixing of freight rates," said Sir Edward, "is a long-established and highly

scientific method by which trained men try to find out what the traffic will bear, and I assert without fear of contradiction that freight rate fixing in Canada comes as close to scientific accuracy as any method of fixing the price at which any goods or services are to be sold. We might have been able to do better had we been treated always quite fairly. We sometimes have suffered from political interference and we have suffered acutely from highway and waterway competition. Nothing in connection with this competition is more irritating to railway men than to see highway transportation agencies and inland shipping operators engaged in cutthroat competition with each other, and doing infinite damage to the railway companies, public revenues and business interests.

"With a few marked exceptions," said Sir Edward, "the freight rate situation is a sound one and the railways are dealing fairly with the country. Canadian railway revenue is very low when judged by the standard of other countries. In 1932 U. S. railways received 1.052 per ton-mile for the freight carried. In that year the figure for Canada was .94 cents. In Great Britain it was 1.87 cents; in Germany 1.49 cents; in Australia it ranged from 1.92 to 4 cents. The Canadian Wheat Pool made a careful study of transportation costs on wheat in this country as compared with those of Australia and the Argentine Republic, our chief competing countries.

"Their figures show that Canadian railways receive an average of 13.5 cents for moving a bushel of wheat from country points to water. The average haul on wheat in Canada is about 750 miles. The wheat pool reports that the average railway haul on wheat in South Australia is 77 miles, for which the rate per bushel is 8 cents. In the Argentine Republic the average haul is 144 miles at a rate of 11.74 cents per bushel. The freight rates per ton-mile on wheat in this country are lower than in the United States."

Stressing the fact that almost alone among great Canadian industries the railways had entered the depression with their selling prices below those current in the United States, Sir Edward proceeded to show something of what the railways had done to meet depressed business conditions. One of the first effects of depression in the U. S. was a request by railways for increased freight rates to compensate for loss of business and temporary increases were accorded them.

Canadian railways decided that this was not the road to restoration of revenues. "We believed it right and wise," he said, "to continue to give Canada the lowest possible rates at a time when every business interest and almost every worker suffered reductions in wages or profits. Our railway workers helped by accepting temporary reductions in basic rates of pay, part of which have been restored. The shareholders of the Canadian Pacific accepted an entire suspension of all dividends and the owners of the Canadian National (the taxpayers) faced an increase in the annual railway deficit, although I believe this could be remedied by a rationalization of the Canadian railway situation."

Equipment and Supplies

LOCOMOTIVES

UNION RAILROAD COMPANY.—See item under Bessemer & Lake Erie.

THE CHICAGO, BURLINGTON & QUINCY is building three locomotives of the 4-8-4 type in its own shops.

THE NATIONAL RAILWAYS OF MEXICO contemplate buying four or five locomotives of the 2-8-0 type.

THE SEABOARD AIR LINE has ordered one 0-4-0 switching locomotive from the Baldwin Locomotive Works. An order has also been given to the same builder for six locomotive tenders of 16,000 gal. capacity.

THE NEW YORK, NEW HAVEN & HARTFORD has ordered five 100-ton, 660-hp. Diesel-electric switching locomotives from the Cooper-Bessemer Corporation and five 100-ton, 600-hp. Diesel-electric switching locomotives from the Ingersoll-Rand Company.

THE BESSEMER & LAKE ERIE will receive bids on or before January 15 for 10 locomotives of the 2-10-4 type, 4 eight-wheel steam switching locomotives and 1 Diesel-electric switching locomotive. Bids are also wanted on the same date for 5 ten-wheel switchers and 5 six-wheel switchers for the Union Railroad Company.

FREIGHT CARS

UNION RAILROAD COMPANY.—See item under Bessemer & Lake Erie.

THE BESSEMER & LAKE ERIE will receive bids on or before January 15 for 1,000 hopper cars of 90 tons' capacity and 1,000 hopper cars of 70 tons' capacity. Bids will also be received on the same date for 1,000 mill-type gondola cars of 70 tons' capacity for the Union Railroad Company.

IRON AND STEEL

THE CHICAGO, ROCK ISLAND & PACIFIC is inquiring for 300 tons of structural steel for bridge work at Chicago.

THE SOUTHERN PACIFIC has ordered 220 tons of structural steel for a bridge at Houston, Tex., from the Jones & Laughlin Steel Corporation.

TRADE PUBLICATION

SIZES WE ROLL.—The Inland Steel Company, Chicago, has just issued a new edition of its 64-page catalog of available sizes of sheets, strip, bars, plates and miscellaneous products. The booklet also contains a brief abstract (with the correct title) of 14 of the more widely used specifications of the American Society for Testing Materials, as well as some reference tables that are useful in ordering material.

Supply Trade

Thomas N. Armstrong, Jr., has joined the technical staff of **The International Nickel Company, Inc.,** New York. Mr. Armstrong, who will handle the steel castings development for the company, will operate out of the New York office.

LeRoy Kramer, vice-president of the **General American Transportation Corporation,** Chicago, has been elected first vice-president and **Robert R. Dunn,** general office manager and assistant to vice-president, has been elected vice-president.

Cyrus L. Philipp has been elected president of the **Union Refrigerator Transit Company of Wisconsin,** Milwaukee, Wis., a division of the **General American Tank Car Corporation,** and **Robert P. McCord** has been appointed assistant to the president.

The Markham Supply Company, Chicago, has been appointed general railway sales representative for the Chicago, St. Louis, Mo., Kansas City, Omaha, Neb., and Twin Cities territory for the **Babcock & Wilcox Tube Company,** Beaver Falls, Pa. **Lloyd R. Wells,** formerly railway sales representative of the latter company, will continue in the same capacity with the Markham Supply Company.

The board of directors of the **United States Steel Corporation,** New York, at its meeting on January 7, created three additional vice-presidencies, and appointed to such offices the following: **Harold L. Hughes,** vice-president, with executive duties assigned by the president; **W. A. Forbes,** vice-president, with supervision over by-product coke plants and disposition of their products, and **Charles H. Rhodes,** vice-president, with general supervision over purchases.

Construction

CHESAPEAKE & OHIO.—This road will receive bids January 31 to equip coal pier No. 9 with three electrically operated traveling towers with telescopic chute for conveying coal, at Newport News, Va., at a cost of about $450,000.

LEHIGH VALLEY.—The New Jersey Board of Public Utility Commissioners has directed that work be started by February 1, on the elimination of the grade crossing of this road at Washington avenue, New Market, N. J. A plan presented by the railroad company included the construction of an overhead highway bridge of concrete and steel with a span of about 65 ft. over the railroad tracks, with the necessary approaches.

NEW YORK, NEW HAVEN & HARTFORD.—This road plans to carry out work renewing decking and widening bridge to accommodate heavy highway travel at Rye, N. Y., to cost about $31,000.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment*—The Interstate Commerce Commission has authorized the Kansas Southwestern to abandon its line from Geuda Springs, Kan., to Arkansas City, 6.3 miles, and has authorized the Santa Fe to abandon operation of the line as lessee. However, the commission denied that part of the joint application as to the line from South Haven to Geuda Springs, 15 miles. Commissioner Mahaffie dissented, saying that the segment required to be kept in operation will involve a continuous out of pocket loss of around $6,000 a year merely to serve one elevator, said to represent an investment of $4,500. "Railroad transportation is still essential," he said. "If it is to be maintained on a sound basis the railroad plant and service must be adjusted to present conditions."

CHICAGO & NORTH WESTERN.—*Abandonment.*—The Interstate Commerce Commission has authorized the trustee of this company to abandon that part of a branch line extending from Paine's spur southwesterly to Parrish, Wis., 1.7 miles.

CHICAGO GREAT WESTERN.—*Trustees' Compensation.*—The Interstate Commerce Commission has fixed at $30,000 the maximum annual compensation to be paid to Patrick H. Joyce and $15,000 to Luther M. Walter, as trustees of the property of this company in bankruptcy.

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment.*—The trustees have applied to the Interstate Commerce Commission for authority to abandon branch lines from Kingfisher, Okla., to Cashion, 15.95 miles, and from Iowa City, Ia., to Iowa Junction, 10.72 miles.

CHICAGO, ROCK ISLAND & PACIFIC.—*Unified Operation Proposed.*—The trustees of this company and of the Chicago, Rock Island & Gulf have applied to the Interstate Commerce Commission for authority to merge the operation of the two companies and to credit to the estate of the Gulf company a specified percentage of the net railway operating income from the combined operations which they ask the commission to fix and establish. The C. R. I. & P. owns the entire capital stock of the Gulf company and the plan to operate the two properties as a unit requires no issue of securities nor any direct compensation.

DENVER & SALT LAKE.—*Interlocking Director.*—The Interstate Commerce Commission has issued an order authorizing Alva Bradley to serve as a director of this company while continuing to hold the position of director of other companies in the Van Sweringen system.

ILLINOIS CENTRAL.—*R. F. C. Loan.*—This company has applied to the Interstate Commerce Commission for approval of an extension to July 1, 1941, of its loans amounting to $17,755,333 from the Reconstruction Finance Corporation and of an additional loan of $7,445,667 to aid the company in meeting a maturity of $8,000,000 on July 1.

LEHIGH VALLEY.—*R. F. C. Loan Extension.*—The Interstate Commerce Commission has authorized the extension to January 1, 1938, of the time of payment of a loan of $2,000,000 by the Reconstruction Finance Corporation to this company, which matured January 7.

MIDLAND VALLEY.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon a branch line from Jenks, Okla., to Kiefer, 8.6 miles.

PENNSYLVANIA. — *Increases Dividend.*—Directors of this company have declared a dividend of $1 per share on its $50-par stock, to be charged to 1935 net income. The last dividend, of 50 cents per share, was declared in March of last year.

PENNSYLVANIA.—*Equipment Trust Certificates.*—The Interstate Commerce Commission has authorized this company to assume obligation and liability in connection with an issue of $18,420,000 of equipment trust certificates, sold at not less than 100.2813 per cent of par and accrued dividends.

ST. LOUIS SOUTHWESTERN.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon a branch line from Hancock Junction, Ark., to Mandalay, 3.65 miles.

TEXAS & PACIFIC.—*Abandonment.*—The Interstate Commerce Commission has issued a certificate authorizing the abandonment of a coal mine track of 6.21 miles from Thurber, Tex.

WASHINGTON & OLD DOMINION.—*Lease.*—This company has applied to the Interstate Commerce Commission for approval of a ten-year lease of a line owned by the Southern from Alexandria, Va., to Bluemont, 54 miles.

WEATHERFORD, MINERAL WELLS & NORTHWESTERN. — *Abandonment.* — This company has applied to the Interstate Commerce Commission for authority to abandon and dismantle its line from Salesville, Tex., to Craford, 12.04 miles.

Average Prices of Stocks and of Bonds

	Jan. 7	Last week	Last year
Average price of 20 representative railway stocks..	43.49	41.59	36.83
Average price of 20 representative railway bonds..	77.74	76.23	76.56

Dividends Declared

Carolina, Clinchfield & Ohio.—$1.00, quarterly; Stamped Certificates, $1.25, quarterly, both payable January 20 to holders of record January 10.

Cincinnati Northern.—$6.00, semi-annually, payable January 31 to holders of record January 21.

Old Colony.—$1.75, quarterly, payable January 15 to holders of record January 6.

Pittsburgh Bessemer & Lake Erie.—75¢, semi-annually, payable April 1 to holders of record March 14.

Virginian.—Preferred, $1.50, quarterly, payable February 1 to holders of record January 18.

FRANK C. FERGUSON was re-elected chairman of the Port of New York Authority for the year 1936 at the annual meeting held on January 2. Howard S. Cullman was renamed vice-chairman. Mr. Ferguson, who is one of New Jersey's representatives on the Port Authority, has been a member since 1924.

Railway Officers

EXECUTIVE

H. J. Hoglund has been appointed assistant to the executive vice-president of the Chicago, Burlington & Quincy, in charge of labor matters, to succeed **L. O. Murdock,** who has been granted a furlough in order that he may accept the appointment as a member of the National Railroad Adjustment Board, as noted elsewhere. Mr. Hoglund had previously served as the principal assistant on Mr. Murdock's staff. His former position has been filled by **A. Davis,** assistant superintendent of safety.

OPERATING

R. E. Titus has been appointed assistant superintendent of the Central district of the Union Pacific, with headquarters at Pocatello, Idaho, succeeding **F. C. Paulsen,** whose appointment as superintendent of the Central district was noted in the *Railway Age* of January 4.

M. L. McElheny, division superintendent on the Central of New Jersey and superintendent of the New York & Long Branch, with headquarters at Jersey City, N. J., has been appointed general superintendent of the Central of New Jersey, the New York & Long Branch, the Wharton & Northern and the Mount Hope Mineral Railroad, with the same headquarters.

R. F. Dickerson, assistant division superintendent on the Central of New Jersey, with headquarters at Jersey City, N. J., has been appointed division superintendent of the Lehigh & Susquehanna division at Mauch Chunk, Pa., succeeding **A. R. Young,** who has been appointed superintendent of the Central and Southern subdivision of the Central of New Jersey, the New York & Long Branch, the Wharton & Northern and the Mount Hope Mineral Railroad.

TRAFFIC

L. J. Trexler, auditor of the Virginia Central, with headquarters at Fredericksburg, Va., has been appointed traffic manager, with the same headquarters.

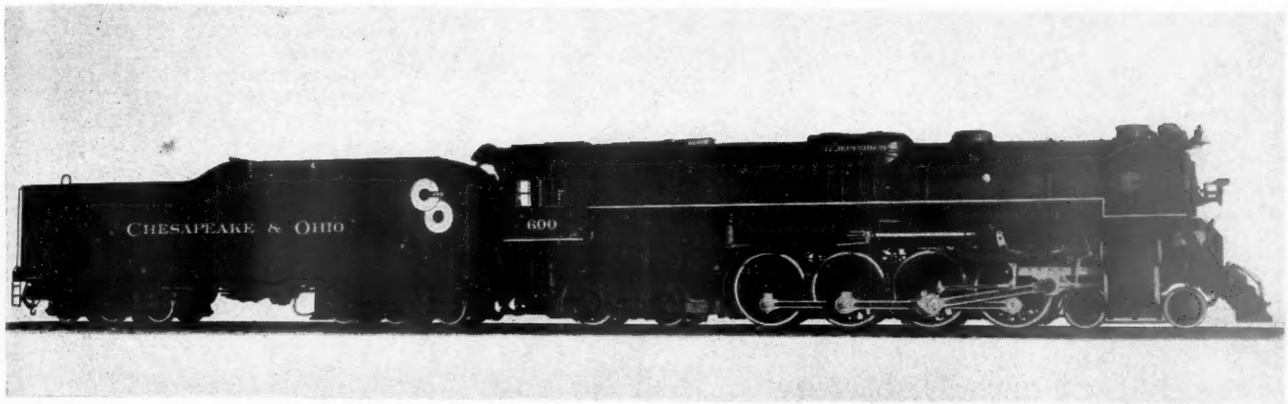
J. K. Williams, commercial agent for the Louisville & Nashville, with headquarters at New York, has been appointed general agent at Louisville, Ky., succeeding **J. H. Barrickman,** who has retired.

Q. A. Kellogg, general livestock agent of the Denver & Rio Grande Western, with headquarters at Denver, Colo., has been appointed to the newly-created position of assistant freight traffic manager, with jurisdiction over matters pertaining to livestock and packing-house products. The position of general livestock agent has been abolished.

L. C. Mahoney, general freight agent on the Chicago, Burlington & Quincy, has

Continued on next left-hand page

THE NEW GREENBRIER (4-8-4) TYPE LOCOMOTIVES FOR THE CHESAPEAKE & OHIO RAILWAY COMPANY



These five passenger locomotives are representative of the progress made in modern motive power, embodying high speed and high capacity with economical operating and maintenance costs.

These locomotives develop the highest horsepower of any steam passenger locomotives built to date.

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

LIMA LOCOMOTIVE WORKS INCORPORATED

been appointed assistant freight traffic manager, with headquarters at Chicago. **H. L. Ford,** general agent, freight department, at Denver, Colo., has been appointed general freight agent in charge of solicitation, with headquarters at Chicago, succeeding to the duties of **E. K. Fleming,** assistant freight traffic manager, who has retired. **H. C. Holzbach,** auditor of freight accounts at Chicago, has been appointed general freight agent at Denver to succeed Mr. Ford.

ENGINEERING AND SIGNALING

Harold F. Fifield, engineer maintenance of way of the Boston & Maine, with headquarters at Boston, Mass., has also been appointed engineer maintenance of way for the Maine Central and Portland Terminal Company, reporting to the chief engineer.

J. A. Andreucetti, assistant electrical engineer of the Chicago & North Western, with headquarters at Chicago, has been appointed electrical engineer, succeeding to a portion of the duties of **R. A. Sheets,** signal and electrical engineer, who retains the title of signal engineer.

Effective January 1, when all units of the Union Pacific System were merged under lease with the Union Pacific Railroad, **F. W. Pfleging,** signal engineer of the Union Pacific Railroad, had his jurisdiction extended over all districts of the system. Mr. Pfleging has his office at Omaha, Neb.

Chauncey S. Robinson, engineer maintenance of way on the Maine Central and Portland Terminal Company, with headquarters at Portland, Me., has been appointed assistant engineer maintenance of way on the Boston & Maine, the Maine Central and the Portland Terminal Company, with the same headquarters, reporting to the engineer maintenance of way on matters pertaining to maintenance, including maintenance of way standards; and to the chief engineer on construction.

MECHANICAL

R. M. Wilson has been appointed shop superintendent of the Erie, with headquarters at Hornell, N. Y.

PURCHASES AND STORES

J. G. Stuart, assistant purchasing agent of the Chicago, Burlington & Quincy, with headquarters at Chicago, retired on January 1 because of continued ill health, after 48 years' service with the Burlington. Mr. Stuart was born at Aurora, Ill., and entered the service of the Burlington in 1887 as a laborer at the Aurora store. In the following year he was made shipping notice clerk at the same point, and in 1889 he was promoted to storekeeper of the Western Avenue (Chicago) store. Two years later Mr. Stuart returned to the Aurora store as a clerk, and in 1899 he was advanced to chief clerk at the same point, which position he held until 1905, when he was sent to Hannibal, Mo., as storekeeper. In the following year he was transferred to West Burlington, Iowa, and in May, 1907, he was appointed inspector of stores at Chicago. Two years later Mr. Stuart was advanced to assistant general

J. G. Stuart

storekeeper, with the same headquarters, and, in 1910, he was further advanced to general storekeeper. During federal control of the railroads Mr. Stuart served as supervisor of stores of the Central Western region, returning to the Burlington as general storekeeper on the termination of federal control. He was appointed assistant purchasing agent in 1931. Mr. Stuart was president of the Railway Storekeepers Association during 1915-16.

SPECIAL

I. O. Enders has been appointed superintendent of the labor and wage bureau of the Central region of the Pennsylvania, with headquarters at Pittsburgh, Pa., to succeed **R. A. Knoff,** who has been appointed a member of the First division of the National Railroad Adjustment Board, as noted elsewhere.

OBITUARY

Gilbert H. Cobb, who retired in 1927 as division freight agent of the Pennsylvania at Harrisburg, Pa., died of pneumonia on January 8 at his home in New York. Mr. Cobb was 78 years old.

James Stillwell, assistant general counsel of the Pennsylvania, with headquarters at Chicago, died on January 4 of heart disease in a hospital at Evanston, Ill. Mr. Stillwell was born on April 1, 1872, at Chatsworth, Ill. He entered the law office of F. J. Loesch in 1889 and was admitted to the bar in Illinois in 1896. Mr. Stillwell eventually became a member of this firm, which handled the legal affairs of the Pennsylvania at Chicago. In 1916 he was appointed assistant general counsel of the railroad, with offices at Pittsburgh, Pa., where he remained until his transfer to Chicago in 1931.

Norman S. Menaugh, general superintendent of telegraph of the Pennsylvania, with headquarters at Philadelphia, Pa., died on January 2 of pneumonia. Mr. Menaugh was born at Florin, Pa., on January 10, 1877, and entered railroad service in 1893 as telegraph operator with the Pennsylvania, serving in this capacity until 1901. He served successively with the P.R.R. as extra train dispatcher, train dispatcher, assistant freight trainmaster, assistant trainmaster and freight trainmaster until 1927. From 1927 until 1934 he was superintendent of freight transportation of the eastern region of the Pennsylvania, with headquarters at Philadelphia. On November 1, 1934, Mr. Menaugh was appointed general superintendent of telegraph, with the same headquarters.

W. O. Thompson, formerly general superintendent of rolling stock of the New York Central, who retired in 1930 as equipment assistant of this company, died on January 5 at Cleveland, Ohio. Mr. Thompson was born at Candaque, Mich., in 1860, and entered railway service as a section laborer on the Fort Wayne, Jackson & Saginaw (now part of the New York Central). Mr. Thompson then served successively as an apprentice on the Michigan Central, as a fireman and locomotive engineman on the Fort Wayne, Jackson & Saginaw, as a traveling engineer and engine dispatcher on the Lake Shore & Michigan Southern (now part of the N.Y.C.), and as a master mechanic on the Toledo, St. Louis & Western (now part of the New York, Chicago & St. Louis), and in the following positions on the New York Central: General locomotive inspector, district superintendent motive power and rolling stock, master car builder, superintendent rolling stock, general superintendent rolling stock and equipment assistant. At the time of his death, Mr. Thompson was secretary of the Traveling Engineers' Association, president of the New York Central Railroad Mutual Relief Association, and first vice-president of the Central Railroad Men Savings & Loan Association.

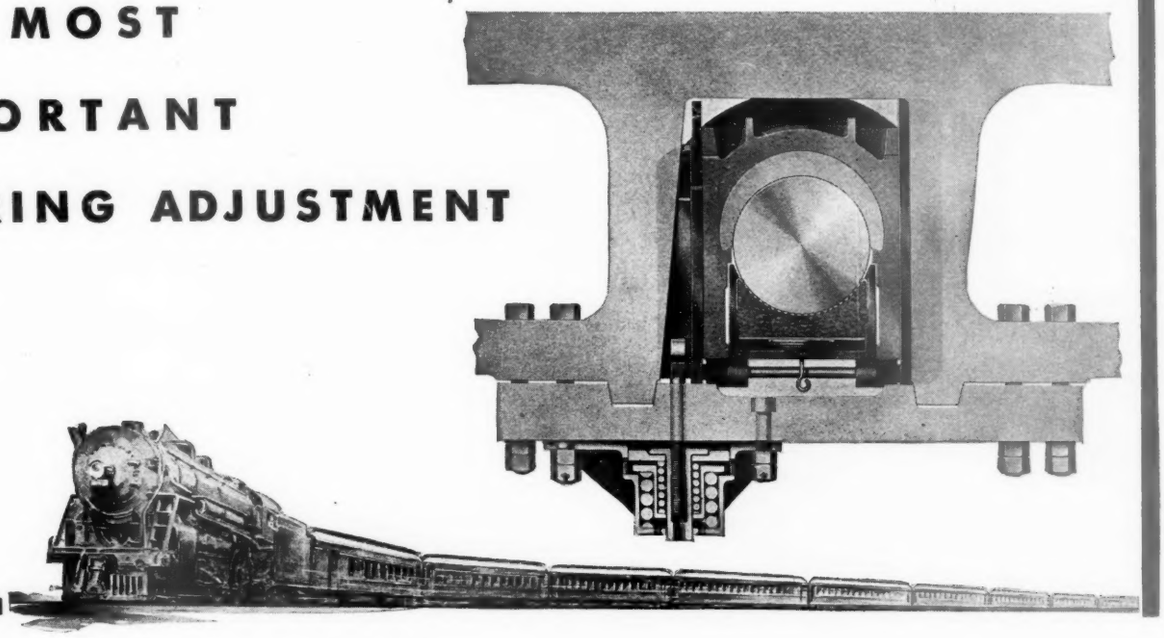
Edward J. White, counsel for the trustee of the Missouri Pacific, with headquarters at St. Louis, Mo., and formerly vice-president and general solicitor of this road, died on December 29 of heart disease after an illness of two months. Mr. White was born on February 11, 1869, at St. Louis, Mo., and graduated from the University of Missouri Law school in 1891, with the degree of LL.B. cum laude. Prior to this latter date, Mr. White taught school for a year and had entered railway service in 1886 with the surveying corps of the Kansas City, Ft. Smith & Southern (now part of the Kansas City Southern). In 1891 he took up the practice of law at Aurora, Mo., and from 1895 to 1897, he served as prosecuting attorney for Lawrence County, Mo. In 1911 Mr. White became general attorney for the Missouri Pacific in Jackson County, Mo., while engaged in the practice of law at Kansas City, Mo. In 1914 he was appointed general solicitor of the Missouri Pacific at St. Louis, and when the railroad went into receivership in 1915 he was appointed counsel for the receiver. Following reorganization of the road, Mr. White was made vice-president and general solicitor, which position he held until 1933, when he was appointed counsel for the trustees after the railroad again went into receivership.

Tables of Revenues and Expenses of Railways begin on next left-hand page

DRIVING BOX FIT...

ON THE ENTIRE LOCOMOTIVE

THE MOST IMPORTANT BEARING ADJUSTMENT



Driving Box Wedges cannot be "hand adjusted" to maintain a constant predetermined fit from terminal to terminal. It may have been fairly well done on the small power and short runs of years ago.

Adjustment in the roundhouse with the engine cold and at rest is soon too tight as the box temperature rises. If temperature increase is allowed for, there is excess slack and pounding. Even if wedges were easy to get at, hand adjustment couldn't do a proper job.

Driving box temperature varies 150 to 200 degrees over short periods of time as the engine works. Driving box size varies correspondingly with the temperature.

Franklin Automatic Compensator and Snubber automatically compensates for temperature change and automatically maintains a predetermined fit at all times.

This assures a smooth riding locomotive and absence of pounding boxes that ruin all bearings.

The Franklin Automatic Compensator and Snubber offers one of the most effective means of extending locomotive mileage and keeping down locomotive maintenance costs. Its twin, the E-2 Radial Buffer, takes on the job between engine and tender and they combine to improve riding, dampen shocks and promote safe operation at any speeds.

When maintenance is required a replacement part assumes importance equal to that of the device itself and should be purchased with equal care. Use only genuine Franklin repair parts in Franklin equipment.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Revenues and Expenses of Railways

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1935

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depr.& retir. 1935	After depr.& retir. 1934	Before depr.& ret.
Akron, Canton & Youngstown	Nov.	171	$166,670	$41	$177,863	$43,735	$14,099	$7,755	$48,460	$122,235	68.7	$55,628	$48,553	$32,322	$15,632	$36,906
	11 mos.	171	1,713,399	425	1,807,444	301,585	191,023	91,221	556,727	1,220,406	67.5	587,038	502,432	341,926	250,227	396,345
Alton	Nov.	956	884,383	140,636	1,198,989	138,237	219,799	47,157	480,431	945,190	78.8	253,799	181,798	28,521	—68,900	60,251
	11 mos.	949	9,317,294	1,575,122	12,685,415	2,345,883	2,140,474	514,771	5,119,180	10,773,102	84.9	1,912,313	1,130,998	—609,436	211,535	—296,006
Atchison, Topeka & Santa Fe System	Nov.	13,259	10,609,137	1,053,115	12,722,865	1,776,865	2,923,204	417,833	4,181,684	9,735,342	76.5	2,987,523	2,069,766	2,162,837	899,419	3,155,973
	11 mos.	13,287	100,397,815	12,268,481	123,881,853	16,943,518	30,342,900	4,355,335	44,037,692	99,608,285	80.4	24,273,568	14,594,131	14,556,558	14,868,851	24,970,603
Atlanta & West Point	Nov.	93	104,729	22,381	144,681	18,347	25,224	7,206	58,055	118,332	81.8	26,349	19,851	1,719	—7,696	7,413
	11 mos.	93	1,009,760	219,372	1,446,154	205,099	280,020	79,472	606,545	1,274,454	88.1	171,700	97,587	—47,399	—126,951	17,250
Western of Alabama	Nov.	133	88,520	23,684	125,912	17,545	26,591	6,946	49,638	108,775	86.4	17,137	9,042	13,218	2,602	21,403
	11 mos.	133	854,940	224,626	1,243,995	237,198	322,168	76,127	532,511	1,256,029	101.0	—12,034	—101,305	—54,077	—36,438	38,995
Atlanta, Birmingham & Coast	Nov.	639	220,226	7,752	258,940	50,131	48,863	20,364	98,241	240,970	93.1	17,970	5,585	—5,603	—35,683	5,899
	11 mos.	639	2,356,496	88,164	2,763,507	469,291	509,578	229,263	1,088,061	2,566,238	92.9	197,269	58,806	—82,757	—289,973	47,078
Atlantic Coast Line	Nov.	5,145	2,282,049	320,459	2,923,011	315,646	668,584	120,692	1,241,964	2,497,177	85.4	425,834	275,365	286,227	508,359	470,370
	11 mos.	5,147	26,223,664	5,111,247	35,760,545	4,369,202	7,512,827	1,290,323	14,367,321	29,338,749	82.0	6,421,796	2,910,403	2,258,418	3,784,826	4,340,390
Charleston & Western Carolina	Nov.	342	152,305	1,053	158,278	25,659	29,557	5,783	54,514	120,885	76.4	37,393	25,393	22,525	30,972	28,828
	11 mos.	342	1,727,380	14,278	1,790,981	285,403	300,999	66,118	611,828	1,319,756	73.7	471,225	297,633	294,474	350,512	367,450
Baltimore & Ohio	Nov.	6,444	10,389,305	776,381	11,985,182	1,028,539	2,793,290	371,238	4,307,682	9,159,159	76.4	2,826,023	2,254,092	1,882,585	1,596,589	2,505,334
	11 mos.	6,440	112,793,808	8,941,895	130,089,245	11,217,791	27,883,926	4,086,062	45,881,966	96,524,859	74.2	33,564,386	26,839,454	22,315,194	21,902,818	28,854,006
Staten Island Rapid Transit	Nov.	23	42,084	72,079	122,000	10,955	21,296	1,711	80,194	126,751	103.9	—4,751	—23,301	—36,933	—53,700	—29,532
	11 mos.	23	458,732	824,733	1,373,650	136,144	227,124	19,670	907,859	1,432,381	104.3	—58,731	—247,789	—466,637	—176,738	—387,250
Bangor & Aroostook	Nov.	603	425,526	13,688	458,138	61,368	79,410	5,241	124,736	291,342	63.6	166,796	143,012	131,408	232,240	153,173
	11 mos.	603	5,135,836	227,732	5,588,012	1,033,125	917,554	63,315	1,391,670	3,650,684	65.3	1,937,328	1,471,675	1,477,086	1,579,235	1,703,033
Bessemer & Lake Erie	Nov.	225	937,300	723	950,115	58,050	253,308	11,008	162,538	520,277	54.8	429,838	371,646	411,172	18,266	470,182
	11 mos.	225	9,206,111	7,869	9,318,945	1,016,781	2,816,017	127,087	1,701,587	5,989,176	64.3	3,329,769	2,734,665	2,980,173	1,477,480	3,626,608
Boston & Maine	Nov.	2,000	2,550,970	491,375	3,537,573	398,233	418,183	62,370	1,470,706	2,529,483	71.5	1,008,090	791,755	597,264	795,275	736,769
	11 mos.	2,016	28,096,857	6,081,240	39,823,160	4,899,090	6,214,603	694,164	16,288,653	30,130,322	75.7	9,692,838	7,439,171	5,592,602	5,703,398	7,116,869
Brooklyn Eastern District Terminal	Nov.	10.91	88,001	.....	89,754	6,960	9,335	426	27,779	49,741	55.4	40,013	32,468	32,628	22,555	.....
	11 mos.	10.91	940,711	.....	962,811	55,984	103,489	2,552	279,806	505,988	52.6	456,823	373,289	373,449	313,067	.....
Burlington-Rock Island	Nov.	255	73,733	3,788	83,111	13,266	36,328	4,297	41,130	102,638	123.5	—19,527	—23,755	—36,717	—34,553	—34,283
	11 mos.	273	689,460	42,724	789,547	160,376	179,904	47,519	453,211	923,821	117.0	—134,274	—203,155	—314,088	—260,196	—284,972
Cambria & Indiana	Nov.	37	106,904	.....	107,056	4,373	110,548	339	12,369	133,332	124.54	—26,276	—34,320	27,739	—8,590	43,747
	11 mos.	37	1,019,558	.....	1,021,244	66,389	575,037	3,815	127,618	835,593	81.82	185,651	—2,786	723,338	599,387	899,522
Canadian Pacific Lines in Maine	Nov.	233	98,272	11,215	121,526	11,559	30,010	9,094	52,573	110,271	90.7	11,255	1,254	—11,571	4,618	—9,599
	11 mos.	233	1,361,215	164,476	1,673,271	369,963	383,789	101,584	665,847	1,601,141	95.7	72,130	—1,881	—195,318	—44,960	—173,299
Canadian Pacific Lines in Vermont	Nov.	85	81,075	6,279	99,213	12,802	22,164	4,042	54,528	99,103	99.9	110	—4,890	—22,478	—38,499	—22,478
	11 mos.	85	636,329	101,224	877,120	152,556	231,499	45,225	604,851	1,096,307	124.9	—219,187	—274,188	—456,363	—437,206	—456,363
Central of Georgia	Nov.	1,926	1,032,014	91,684	1,233,338	122,283	279,541	50,459	491,935	998,287	80.9	235,051	161,495	132,099	87,552	202,556
	11 mos.	1,926	10,760,111	1,111,637	13,310,364	1,622,834	2,838,457	573,359	5,418,886	11,220,512	84.3	2,089,852	1,284,022	955,286	647,898	1,713,014
Central New Jersey	Nov.	684	1,850,373	302,951	2,314,385	176,290	458,521	43,490	991,337	1,781,216	77.0	533,169	43,369	—93,234	175,395	41,386
	11 mos.	684	21,198,885	3,992,381	26,987,291	1,844,190	5,018,090	505,506	11,277,485	19,611,473	72.7	7,375,818	3,394,630	2,077,461	2,873,984	3,601,636
Central Vermont	Nov.	455	405,674	30,631	477,186	60,939	72,896	13,566	224,486	393,501	82.5	83,685	66,980	52,039	47,258	80,352
	11 mos.	455	4,103,872	389,161	4,960,624	784,352	936,363	157,165	2,304,288	4,400,642	88.7	559,982	379,769	241,835	96,072	557,412
Chesapeake & Ohio	Nov.	3,106	10,215,899	210,166	10,857,088	839,334	1,730,836	201,483	2,283,405	5,377,489	49.5	5,479,599	4,555,876	4,522,135	3,155,219	5,207,501
	11 mos.	3,111	98,135,400	2,564,800	104,745,832	10,745,762	18,391,623	2,009,098	23,577,652	58,204,858	55.6	46,540,974	36,714,133	36,502,417	34,131,767	44,066,292
Chicago & Eastern Illinois	Nov.	938	959,792	82,173	1,194,726	136,042	206,420	53,249	452,163	906,269	75.9	288,457	237,771	88,575	—549	139,143
	11 mos.	938	9,616,854	989,850	12,122,278	1,524,945	2,077,301	571,680	4,893,338	9,709,811	80.1	2,412,467	1,808,546	439,792	380,729	997,164
Chicago & Illinois Midland	Nov.	131	241,975	1,203	250,720	39,607	55,179	16,022	65,294	191,766	76.5	58,954	50,895	53,022	70,253	66,709
	11 mos.	131	2,874,760	11,375	2,976,321	387,038	623,613	179,077	763,183	2,124,435	71.4	851,886	737,590	763,127	723,403	914,525
Chicago & North Western	Nov.	8,428	5,327,533	589,035	6,621,464	815,726	1,275,058	150,504	2,623,534	5,176,840	78.2	1,444,624	1,017,735	743,644	166,402	1,163,948
	11 mos.	8,428	55,313,159	8,018,107	71,015,827	11,579,566	15,536,800	1,788,220	27,912,090	60,085,118	84.6	10,930,709	5,798,140	2,935,191	4,784,766	7,642,047
Chicago, Burlington & Quincy	Nov.	9,034	6,308,991	601,352	7,670,994	1,079,319	1,321,277	210,716	2,800,835	5,734,399	74.8	1,936,595	1,409,629	969,792	1,174,004	1,359,524
	11 mos.	9,036	61,086,662	6,321,400	75,635,883	11,440,932	13,665,409	2,389,539	28,075,490	59,270,968	78.4	16,364,915	10,704,148	6,952,214	11,600,466	11,248,072
Chicago Great Western	Nov.	1,512	1,178,478	41,511	1,328,124	118,569	149,718	52,451	495,059	856,332	64.5	471,792	444,110	255,175	155,111	297,178
	11 mos.	1,512	12,662,778	472,763	14,198,488	1,993,969	2,106,795	596,752	5,603,210	10,851,907	76.4	3,346,581	2,772,381	829,215	1,170,839	1,303,494
Chicago, Indianapolis & Louisville	Nov.	647	640,002	40,253	769,245	58,808	164,189	27,481	304,616	585,993	76.2	183,252	165,517	73,170	—38,101	119,893
	11 mos.	647	6,095,451	471,459	7,450,428	707,155	1,685,636	285,614	3,132,597	6,100,055	81.9	1,350,373	1,100,743	58,741	—368,926	577,365
Chicago, Milwaukee, St. Paul & Pac.	Nov.	11,123	6,987,150	518,713	8,267,847	927,531	1,445,190	193,474	3,107,069	5,976,536	72.3	2,291,311	1,849,069	1,404,962	398,482	1,818,372
	11 mos.	11,129	71,025,099	5,398,618	84,684,391	16,208,306	16,373,054	2,353,393	33,022,604	70,449,053	83.2	14,235,338	8,674,571	3,781,137	6,232,339	8,815,528
Chicago, Rock Island & Pacific	Nov.	7,574	4,381,825	489,428	5,414,698	619,814	1,436,517	180,610	2,359,977	4,964,858	91.7	449,840	180,218	—59,443	—4,706	306,543
	11 mos.	7,575	46,370,952	5,435,646	57,863,161	7,239,887	13,168,191	2,091,600	25,438,238	51,871,662	89.6	5,991,499	2,214,905	—810,585	1,828,096	3,308,425

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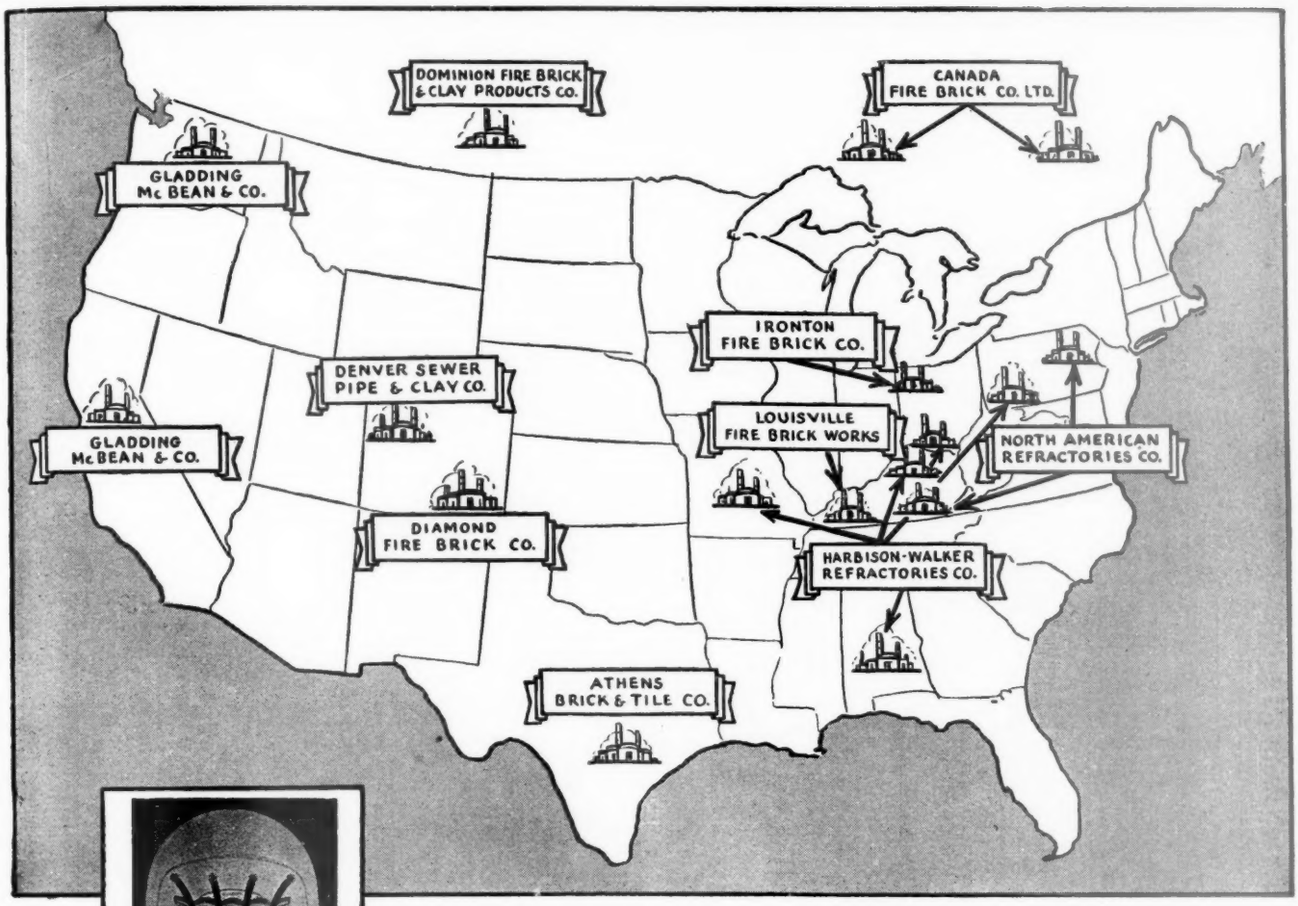
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RAILROAD OPERATION

The holding of locomotives out of service awaiting repair material is a handicap too serious to be overlooked.

As experienced railroad men we fully realized this and provided sources of Arch Brick supply at convenient points throughout the country.

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AMERICAN ARCH COMPANY

INCORPORATED

Locomotive Combustion Specialists

NEW YORK CHICAGO

Revenues and Expenses of Railways

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depr.& retir. 1935	After depr.& retir. 1934	Before depr.& ret.
Chicago, Rock Island & Gulf	Nov.	722	$331,027	$26,926	$350,159	$43,959	$37,453	$15,800	$119,074	$240,604	68.7	$109,555	$93,075	$52,339	—$6,245	$56,560
	11 mos.	722	3,224,153	267,811	3,581,029	505,629	373,005	175,017	1,286,901	2,604,906	72.7	976,123	779,172	84,147	—22,533	133,885
Chicago, St. Paul, Minn. & Omaha	Nov.	1,651	1,156,407	111,620	1,372,806	175,000	185,512	34,331	639,005	1,111,326	81.0	261,480	192,515	108,216	—107,433	159,796
	11 mos.	1,652	11,659,976	1,368,734	14,098,690	1,671,213	2,487,167	368,018	6,742,886	12,116,788	85.9	1,981,902	1,187,653	143,112	672,739	720,872
Clinchfield R. R.	Nov.	309	489,471	3,506	497,966	29,818	105,609	17,288	93,084	258,672	51.9	239,294	201,293	231,150	151,792	275,114
	11 mos.	309	4,706,480	41,969	4,804,627	389,188	1,187,545	180,430	965,216	2,863,006	59.6	1,941,621	1,523,563	1,778,422	1,887,676	2,262,527
Colorado & Southern	Nov.	1,019	634,385	29,965	713,655	59,060	88,842	12,524	237,533	407,714	57.1	305,941	252,351	234,730	72,688	267,584
	11 mos.	1,019	4,839,108	312,515	5,673,072	801,416	1,080,885	138,939	2,244,727	4,616,683	81.4	1,056,389	452,305	247,693	145,591	613,886
Ft. Worth & Denver City	Nov.	804	464,508	34,769	577,635	36,580	79,804	15,740	165,523	315,049	54.5	262,586	381,917	349,738	60,610	370,181
	11 mos.	804	3,856,587	402,217	4,954,762	490,695	839,379	181,262	1,725,034	3,605,964	72.8	1,348,798	1,194,795	846,234	1,216,370	1,080,793
Columbus & Greenville	Nov.	167	89,982	7,808	104,455	17,780	8,531	3,716	33,756	73,520	70.4	30,935	25,840	24,245	10,590	27,117
	11 mos.	167	759,712	68,288	891,034	187,894	133,914	40,516	350,991	817,021	91.7	74,013	39,818	47,605	7,483	78,702
Delaware & Hudson	Nov.	835	1,679,838	69,424	1,828,169	273,039	514,842	45,577	734,523	1,700,151	93.0	128,018	40,946	42,037	54,945	138,700
	11 mos.	835	19,017,211	972,464	20,958,311	3,094,956	5,690,791	529,583	8,141,669	18,778,254	89.6	2,180,057	1,192,067	1,283,879	1,285,833	2,273,938
Delaware, Lackawanna & Western	Nov.	992	2,711,511	528,181	3,683,617	254,368	679,096	112,210	1,700,510	2,910,661	79.0	772,956	456,738	430,363	272,673	654,880
	11 mos.	992	30,142,447	5,865,310	40,827,265	4,098,067	7,983,793	1,264,275	18,723,263	33,996,373	83.3	6,830,892	3,313,212	2,994,952	4,261,415	5,539,118
Denver & Rio Grande Western	Nov.	2,584	1,945,731	56,183	2,093,693	191,967	305,785	49,346	710,205	1,338,072	63.9	755,621	608,241	569,595	64,988	669,771
	11 mos.	2,593	16,850,839	1,224,979	19,155,544	2,374,113	4,520,420	547,932	6,513,335	14,902,625	77.8	4,252,919	2,608,468	2,029,516	2,041,587	3,126,643
Denver & Salt Lake	Nov.	232	255,994	4,021	268,936	24,398	39,294	2,049	62,195	137,268	51.0	131,668	113,168	142,253	100,843	147,862
	11 mos.	232	1,831,315	44,196	1,974,704	238,990	355,805	20,872	456,465	1,118,485	56.6	856,219	685,214	1,133,739	703,027	1,190,870
Detroit & Mackinac	Nov.	242	61,323	2,410	70,208	9,474	10,348	854	22,647	45,824	65.3	24,384	22,646	19,331	17,558	22,584
	11 mos.	242	514,494	28,231	611,012	112,103	108,695	9,572	239,625	502,340	82.2	108,672	95,164	70,168	125,261	107,646
Detroit & Toledo Shore Line	Nov.	50	319,623	.....	321,333	17,038	22,898	7,263	72,497	126,855	39.5	194,478	162,618	106,980	52,999	111,580
	11 mos.	50	3,146,425	.....	3,168,730	243,875	290,224	81,218	766,861	1,448,661	45.7	1,720,069	1,441,154	900,278	663,442	964,267
Detroit, Toledo & Ironton	Nov.	472	634,804	152	650,254	54,828	55,350	10,110	123,450	255,503	39.3	394,751	321,343	282,377	73,232	303,419
	11 mos.	472	7,123,285	2,590	7,362,216	705,820	890,162	115,652	1,462,085	3,356,846	45.6	4,005,370	3,385,206	2,921,905	1,767,142	3,155,966
Duluth, Missabe & Northern	Nov.	559	130,004	3,161	162,627	100,426	182,754	3,214	152,001	484,361	297.8	—321,734	—369,412	—367,278	—365,855	—319,711
	11 mos.	560	10,048,740	33,137	11,527,687	1,350,780	1,978,614	37,782	2,327,697	6,104,211	53.0	5,423,476	4,423,455	4,423,566	2,375,076	4,886,540
Duluth, Winnipeg & Pacific	Nov.	178	99,129	1,490	104,228	13,596	20,719	1,656	42,620	82,657	79.3	21,571	16,356	6,696	9,375	9,914
	11 mos.	178	911,690	22,378	966,091	253,748	206,557	18,973	432,725	952,617	98.6	13,474	—36,187	—136,613	—53,988	—100,689
Elgin, Joliet & Eastern	Nov.	434	1,190,916	.....	1,328,870	109,599	241,732	12,775	459,588	869,581	65.4	459,289	337,966	351,601	21,906	427,269
	11 mos.	440	11,287,448	31	12,833,439	1,253,336	2,735,938	144,833	4,650,074	9,174,819	71.5	3,658,620	2,637,060	2,577,346	511,058	3,402,989
Erie Railroad	Nov.	2,296	5,583,155	383,730	6,459,942	445,677	1,165,668	160,877	2,406,382	4,469,476	69.2	1,990,466	1,653,116	1,225,594	641,200	1,549,496
	11 mos.	2,303	59,004,110	4,456,447	68,920,257	6,372,674	13,148,771	1,811,213	25,728,384	50,270,515	72.9	18,649,742	14,953,474	11,858,039	11,909,735	15,584,474
New Jersey & New York	Nov.	45	12,569	44,516	58,976	4,148	17,987	703	49,212	73,796	125.1	—14,820	—19,200	—31,815	—36,725	—28,209
	11 mos.	45	162,728	518,493	702,478	65,807	243,997	10,041	533,408	882,110	125.6	—179,632	—225,533	—385,976	—394,863	—349,558
N. Y., Susquehanna & Western	Nov.	215	230,305	22,089	267,563	22,845	41,554	4,706	114,042	195,827	73.2	71,736	49,335	26,695	—38,904	39,731
	11 mos.	215	2,802,312	269,313	3,242,024	297,626	545,979	52,553	1,334,479	2,371,086	73.1	870,938	621,594	309,230	301,006	454,372
Florida East Coast	Nov.	712	460,417	85,249	582,420	105,549	121,705	24,364	204,007	496,754	85.3	85,666	45,438	14,689	37,856	53,498
	11 mos.	785	4,326,869	1,774,517	6,956,783	1,305,185	1,466,802	232,033	2,490,190	6,047,036	86.9	909,747	159,083	—262,468	159,933	225,383
Fort Smith & Western	Nov.	249	65,195	1,101	69,296	14,079	8,215	5,206	19,774	51,008	73.6	18,288	16,772	9,746	—6,605	10,336
	11 mos.	249	554,311	10,952	600,142	159,056	98,146	58,224	207,820	567,682	94.6	32,460	14,900	—48,662	—28,104	—45,011
Georgia R. R.	Nov.	329	227,859	13,502	257,919	25,012	64,484	17,224	121,572	240,190	93.1	17,729	13,124	25,096	69,736	37,007
	11 mos.	329	2,557,266	150,445	2,953,684	281,818	596,796	185,976	1,284,445	2,479,108	83.9	474,576	423,640	514,185	508,310	653,542
Georgia & Florida	Nov.	408	76,007	2,925	82,536	21,659	15,336	7,872	31,480	79,308	96.1	3,228	—2,359	—2,258	—4,735	2,950
	11 mos.	408	944,222	27,223	1,013,996	232,716	183,244	86,433	365,707	922,963	91.0	91,033	39,402	24,965	50,420	83,430
Grand Trunk Western	Nov.	1,006	1,697,860	67,094	1,878,981	190,704	315,722	30,765	740,526	1,363,165	72.6	515,816	436,955	288,148	—184,172	378,145
	11 mos.	1,006	16,930,828	719,420	18,954,000	2,593,576	3,740,417	355,045	7,703,286	15,216,607	80.3	3,737,393	2,906,888	1,626,668	314,464	2,611,697
Canadian Nat'l Lines in New Eng.	Nov.	172	73,362	2,338	83,743	24,424	31,835	2,339	54,287	121,463	145.0	—37,720	—49,018	—84,648	—78,215	—83,060
	11 mos.	172	875,189	72,468	1,037,803	288,810	240,150	27,534	630,284	1,281,049	123.4	—243,246	—367,535	—776,437	—762,293	—739,137
Great Northern	Nov.	8,250	5,863,497	330,501	6,680,465	485,889	1,089,424	170,822	2,246,525	4,256,922	63.7	2,423,543	1,907,675	1,810,712	1,233,678	2,099,364
	11 mos.	8,280	65,905,688	3,954,785	75,838,266	6,624,246	11,600,215	1,872,996	23,688,847	46,169,445	60.9	29,668,821	23,347,188	21,961,548	12,897,342	25,100,110
Green Bay & Western	Nov.	234	117,257	713	123,276	86,793	Cr. 4,398	5,945	30,605	125,403	101.7	—2,127	—9,143	—13,832	7,233	—7,552
	11 mos.	234	1,235,948	10,951	1,303,154	310,738	178,719	60,270	461,037	1,043,768	80.0	259,386	182,202	123,231	—510	171,021
Gulf & Ship Island	Nov.	259	76,423	8,011	95,780	15,240	15,540	2,813	52,266	90,635	94.6	5,145	—8,593	—17,759	—23,772	—14,081
	11 mos.	259	911,684	95,237	1,173,402	164,620	173,466	31,924	578,433	1,003,402	85.5	170,000	13,828	—84,967	—153,202	—40,650
Gulf, Mobile & Northern	Nov.	936	552,054	23,741	597,958	73,188	88,833	32,391	151,561	372,371	62.27	225,587	195,526	132,706	50,724	151,323
	11 mos.	936	5,184,195	239,132	5,658,233	705,750	858,407	353,805	1,612,506	3,747,297	66.23	1,910,936	1,566,324	1,019,653	455,750	1,215,009
Illinois Central	Nov.	4,980	5,957,691	660,431	7,182,794	592,604	1,790,548	198,691	2,790,704	5,753,333	80.1	1,429,461	1,015,177	834,806	774,074	1,391,784
	11 mos.	4,980	63,746,273	7,173,405	77,347,188	7,419,219	18,239,300	2,170,370	29,542,652	61,516,279	79.5	15,830,909	10,969,070	9,635,382	11,077,914	15,902,558

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THE SUPERHEATER COMPANY

NEW YORK ELESCO CHICAGO

ELESCO FEED WATER HEATER EQUIPMENT FOR LOCOMOTIVES

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5,000 LOCOMOTIVES EQUIPPED IN NORTH AMERICA

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CHICAGO
Peoples Gas Bldg.

REPRESENTATIVE OF AMERICAN THROTTLE COMPANY, INC.

Revenues and Expenses of Railways

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depr.& retir. 1935	After depr.& retir. 1934	Before depr.& ret.
Yazoo & Mississippi Valley	Nov.	1,635	$1,158,343	$71,538	$1,322,946	$74,961	$200,773	$29,122	$476,656	$833,695	63.0	$489,251	$373,140	$279,214	$167,696	$325,247
	11 mos.	1,635	10,048,187	726,600	11,604,618	1,019,255	1,990,241	323,520	4,676,016	8,579,891	73.9	3,024,727	1,744,520	863,332	590,342	1,365,586
Illinois Central System	Nov.	6,616	7,116,034	731,969	8,505,740	667,565	1,991,321	227,813	3,267,360	6,587,028	77.4	1,918,712	1,383,310	1,107,020	952,038	1,710,031
	11 mos.	6,616	73,794,460	7,900,005	88,951,806	8,438,474	20,229,541	2,493,890	34,218,668	70,096,170	78.8	18,855,636	12,665,956	10,555,789	11,779,900	17,325,219
Illinois Terminal	Nov.	525	379,931	67,836	482,289	49,410	57,471	15,224	153,249	293,197	60.79	189,092	157,139	138,029	94,941	148,539
	11 mos.	525	3,741,836	674,960	4,824,131	546,730	704,595	174,565	1,671,866	3,258,506	67.55	1,565,625	1,266,749	1,088,035	878,302	1,302,320
Kansas City Southern	Nov.	878	801,258	13,554	915,055	87,063	148,799	45,884	269,661	607,333	66.4	307,722	237,270	185,636	77,366	214,450
	11 mos.	878	7,801,774	202,096	9,075,056	906,785	1,551,473	525,220	2,895,260	6,594,117	72.7	2,480,939	1,743,623	1,287,465	1,277,937	1,617,044
Kansas, Oklahoma & Gulf	Nov.	326	195,766	584	199,205	32,515	17,813	7,596	41,568	88,623	44.5	110,582	91,968	73,172	17,127	17,285
	11 mos.	326	1,788,637	4,782	1,823,210	289,934	182,673	82,183	434,183	1,015,578	55.7	807,632	661,002	478,892	457,333	500,407
Lake Superior & Ishpeming	Nov.	160	124,904	139	139,980	18,578	22,571	540	30,375	78,190	55.9	61,790	41,455	39,702	—35,797	46,906
	11 mos.	160	1,908,992	1,234	2,179,409	287,507	261,228	7,269	378,449	990,080	45.4	1,189,329	895,987	876,432	314,587	941,017
Lehigh & Hudson River	Nov.	96	113,575	102	114,555	13,597	20,177	3,190	39,355	82,776	72.3	31,779	22,537	11,342	12,701	15,119
	11 mos.	96	1,352,034	1,704	1,369,788	138,810	207,814	35,194	469,609	922,423	67.3	447,365	325,780	184,440	131,836	229,482
Lehigh & New England	Nov.	219	242,136	216	244,727	34,454	55,186	5,713	101,115	215,853	88.2	28,874	21,490	30,616	20,211	49,251
	11 mos.	220	3,124,845	2,901	3,153,262	368,704	654,767	61,997	1,147,901	2,379,268	75.5	773,994	700,715	769,507	678,274	977,197
Lehigh Valley	Nov.	1,336	2,902,069	192,897	3,332,152	212,697	625,658	108,880	1,543,639	2,654,891	79.7	677,261	540,358	349,404	401,607	557,964
	11 mos.	1,349	32,196,156	2,086,867	36,922,784	3,048,620	6,613,859	1,221,590	16,645,040	29,261,752	79.3	7,661,032	5,663,183	4,232,137	4,596,726	6,487,648
Louisiana & Arkansas	Nov.	608	398,344	15,607	439,694	59,601	67,539	23,359	110,688	276,502	62.9	163,192	135,465	116,977	73,434	131,588
	11 mos.	608	3,978,760	111,087	4,384,075	595,648	704,705	275,784	1,099,242	2,847,120	64.9	1,536,955	1,148,227	1,039,011	934,128	1,211,238
Louisiana, Arkansas & Texas	Nov.	255	80,516	202	83,170	20,527	12,437	4,285	24,768	66,332	83.4	16,838	15,715	3,607	—5,826	4,350
	11 mos.	255	857,270	2,782	886,026	207,956	97,099	50,256	291,645	687,538	77.6	198,488	174,462	42,494	7,930	50,882
Louisville & Nashville	Nov.	5,037	6,022,759	438,763	6,931,973	771,689	1,840,301	165,174	2,271,260	5,351,293	77.2	1,580,680	1,251,659	1,286,185	1,290,005	1,634,219
	11 mos.	5,047	58,279,828	5,155,722	68,894,755	7,502,201	15,862,177	1,846,445	24,323,914	52,890,349	76.8	16,004,406	11,963,850	12,319,925	11,762,955	16,210,112
Maine Central	Nov.	1,046	783,124	68,884	943,275	119,404	121,409	10,590	343,583	632,524	67.1	310,751	261,546	208,395	225,932	253,565
	11 mos.	1,052	8,539,599	888,531	10,427,630	1,520,897	1,757,768	126,832	3,890,260	7,712,337	74.0	2,715,293	2,177,058	1,634,435	1,622,153	2,138,100
Midland Valley	Nov.	361	119,035	22	120,945	11,728	9,707	2,255	30,005	59,431	49.1	61,514	54,432	44,922	34,232	47,248
	11 mos.	361	1,190,734	99	1,212,789	163,472	120,363	25,662	310,934	674,753	55.6	538,036	457,951	374,210	348,741	396,060
Minneapolis & St. Louis	Nov.	1,625	619,252	11,084	669,713	77,197	106,550	32,130	288,663	539,973	80.6	129,740	100,391	40,878	3,635	70,759
	11 mos.	1,637	6,397,139	144,597	6,971,586	936,973	1,293,127	334,239	3,251,268	6,223,805	89.3	747,781	478,034	61,760	63,098	422,005
Minn., St. Paul & S. S. Marie	Nov.	4,296	1,816,471	71,412	2,043,722	306,374	310,361	54,394	836,073	1,617,019	79.1	426,703	299,267	170,030	242,502	272,774
	11 mos.	4,297	19,290,986	995,209	22,024,048	3,153,442	3,969,920	641,069	9,078,566	17,905,180	81.3	4,118,868	2,956,674	1,514,746	1,325,040	2,581,067
Duluth, South Shore & Atlantic	Nov.	556	154,746	9,923	179,005	40,015	30,817	4,155	76,446	155,409	86.8	23,596	20,092	9,649	—5,328	17,494
	11 mos.	556	1,898,300	114,896	2,210,429	364,837	371,672	47,988	852,100	1,675,653	75.8	534,776	481,407	386,942	188,048	475,814
Spokane International	Nov.	163	45,782	1,732	52,889	14,358	6,471	1,825	21,875	48,535	91.8	4,354	419	—1,082	—10,524	—3
	11 mos.	163	469,047	18,766	547,194	147,762	62,655	19,729	223,661	494,040	90.3	53,154	15,834	—13,557	—48,678	—1,651
Mississippi Central	Nov.	150	60,402	1,654	64,601	13,182	11,691	6,851	36,454	73,717	114.1	—9,116	—11,934	—13,521	—5,751	—10,876
	11 mos.	150	619,927	19,967	664,072	101,903	122,725	76,523	219,076	577,473	87.0	86,599	55,084	24,519	—8,606	54,007
Missouri-Arkansas	Nov.	364	77,529	1,333	85,706	26,427	11,861	3,894	33,342	86,826	101.3	—1,120	—8,904	—16,646	Not shown	—15,851
	11 mos.	364	551,403	10,384	609,471	137,091	66,992	28,691	210,702	479,723	78.7	129,748	113,149	52,049	Not shown	58,114
Missouri-Illinois	Nov.	208	93,068	598	95,541	23,564	9,206	2,431	30,810	71,320	74.6	24,221	21,821	11,746	3,416	11,813
	11 mos.	218	945,376	9,015	974,148	246,911	128,374	29,786	319,348	775,228	79.6	198,920	151,909	49,080	51,106	81,383
Missouri-Kansas-Texas Lines	Nov.	3,293	2,139,765	179,291	2,561,738	287,206	345,868	112,013	887,123	1,771,297	69.1	790,441	730,015	514,563	56,340	623,350
	11 mos.	3,293	20,484,778	1,744,315	24,916,953	3,561,905	4,499,989	1,209,328	9,117,643	19,807,630	79.5	5,109,323	3,545,841	1,355,371	1,745,335	2,543,053
Missouri Pacific	Nov.	7,230	5,661,945	373,468	6,562,753	985,046	1,400,004	227,719	2,411,733	5,284,043	80.5	1,278,710	1,049,059	608,983	163,116	962,286
	11 mos.	7,233	58,021,350	3,823,710	68,156,117	10,217,927	14,672,593	2,469,078	25,658,481	55,639,337	81.6	12,516,780	9,161,246	4,685,906	6,078,653	8,612,838
Gulf Coast Lines	Nov.	1,763	750,186	33,714	838,317	134,827	179,666	40,475	301,223	702,600	83.81	135,717	92,714	12,673	6,150	.....
	11 mos.	1,763	7,853,584	351,862	8,893,475	1,449,482	1,785,959	465,156	3,156,571	7,290,253	81.97	1,603,222	1,062,736	193,342	836,443	.....
International Great Northern	Nov.	1,154	768,051	55,588	945,357	132,996	222,251	27,821	382,304	820,419	86.78	124,938	92,864	15,778	56,140	50,094
	11 mos.	1,154	8,617,924	676,356	10,616,346	1,536,194	2,121,326	315,424	4,212,119	8,739,429	82.32	1,876,917	1,504,732	552,136	1,400,742	901,746
Mobile & Ohio	Nov.	1,201	710,950	25,033	787,806	125,088	204,969	37,495	312,918	719,657	91.3	68,149	36,249	—24,100	—29,479	28,332
	11 mos.	1,201	7,284,493	297,159	8,116,591	1,279,890	1,803,861	428,987	3,185,714	7,073,176	87.1	1,043,415	688,283	58,447	32,695	683,005
Monongahela	Nov.	174	314,360	608	317,316	34,805	23,961	410	68,074	129,955	41.0	187,361	172,614	87,790	83,830	93,734
	11 mos.	174	3,465,479	7,880	3,495,778	336,293	288,626	4,849	784,175	1,402,120	40.1	2,093,658	1,932,791	1,029,463	1,040,576	1,094,942
Montour	Nov.	57	179,347	.....	180,150	9,871	54,924	853	40,348	112,278	62.3	67,872	49,743	66,535	71,778	75,509
	11 mos.	57	1,843,192	.....	1,853,333	146,822	422,586	9,817	403,983	1,056,429	57.0	796,904	622,926	815,073	722,008	913,893

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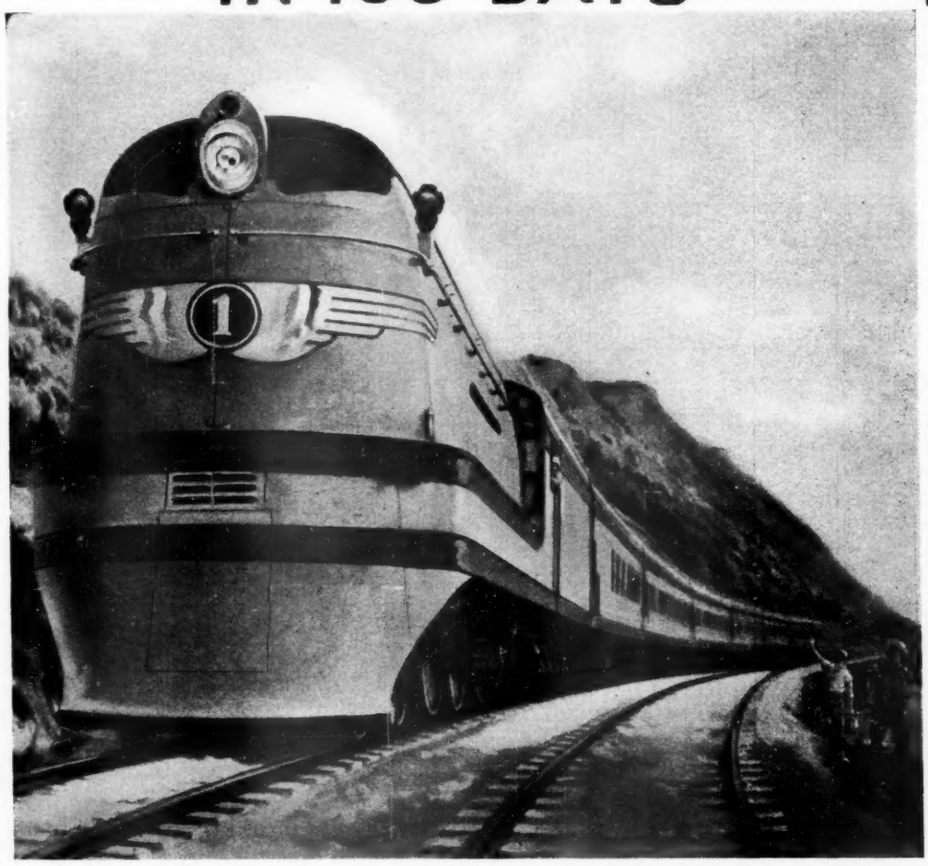
100,000 *Paying Passengers* IN 160 DAYS

ALCO



"Hiawatha" is hauled by a colorful streamlined, high-powered, oil-burning, steam locomotive built by the American Locomotive Company—the first modern steam locomotive to be built in the United States in which speed alone was the governing factor.

THE outstanding development in rail-transportation during 1935 was the positive demonstration that the steam locomotive, properly designed and modernized, could meet and out-perform outside competition in this new and highly publicized restimulation of public interest in railway passenger traffic. . . "The Hiawatha" is the 6-hour 30-minute train of the Chicago, Milwaukee, St. Paul and Pacific Railroad, operating between Chicago, Milwaukee and St. Paul, a distance of 410 miles. The locomotive guaranteed originally to handle six cars is now hauling eight; and with an additional train stop the locomotive keeps right on making the original exacting schedule with ease. . . The train was placed in operation on May 29th, 1935. On November 4th, 160 days later, it celebrated the handling of its 100,000th paying passenger. During the two months, July and August, 35,376 passengers were handled, an average of 290 per trip; the average revenue per trip was $1,546.00, and per passenger was $5.33. In these two months this train operated at a net profit of $127,296.00. . . The "Hiawatha" has conclusively demonstrated that to date there is no other form of motive power in existence, or as yet envisioned, which for anything like an equal capital expenditure will produce an equal return.

AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET NEW YORK N.Y.

Revenues and Expenses of Railways

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depr.& retir. 1935	1934	Before depr.& ret.
Nashville, Chattanooga & St. Louis	Nov.	1,154	$893,925	$70,327	$1,068,019	$135,851	$233,608	$55,964	$426,481	$915,170	85.7	$152,849	$108,783	$108,618	$42,840	$153,708
	11 mos.	1,175	9,199,142	843,330	11,291,517	1,507,250	2,703,376	634,121	4,661,333	10,186,041	90.2	1,105,476	685,100	484,462	932,905	970,510
Nevada Northern	Nov.	165	45,190	3,289	53,536	6,753	4,139	726	9,236	24,589	45.9	28,947	21,830	23,781	—670	24,662
	11 mos.	165	313,515	11,777	376,098	93,477	37,291	8,151	88,732	267,060	71.0	109,038	42,210	80,290	37,084	90,586
New York Central	Nov.	11,330	19,405,701	4,433,637	27,085,283	2,623,158	5,704,687	517,728	10,025,505	20,266,963	74.8	6,818,320	5,727,745	4,422,727	1,706,079	5,811,513
	11 mos.	11,330	198,893,927	49,699,876	281,917,081	28,225,266	58,609,254	5,876,245	106,283,901	214,083,320	75.9	67,833,761	47,358,820	33,256,874	27,584,970	48,536,129
Pittsburgh & Lake Erie	Nov.	233	1,408,099	44,503	1,486,622	96,731	527,603	22,493	483,545	1,213,434	81.6	273,188	169,012	321,330	200,438	474,392
	11 mos.	233	14,564,234	476,376	15,491,399	1,384,275	4,769,142	288,358	5,089,139	12,386,324	80.0	3,105,075	1,934,517	3,523,571	2,986,270	5,195,887
New York, Chicago & St. Louis	Nov.	1,691	2,758,682	49,479	2,915,718	287,923	435,442	106,691	1,006,216	1,955,875	67.1	959,843	855,549	620,611	270,974	756,093
	11 mos.	1,691	29,416,411	724,988	31,252,538	3,315,512	4,569,531	1,167,352	10,733,384	21,145,190	67.7	10,107,348	8,869,640	6,082,402	5,064,960	7,586,706
N. Y., New Haven & Hartford	Nov.	2,072	3,415,568	1,911,413	6,036,497	698,736	1,094,935	83,070	2,249,328	4,505,208	74.6	1,531,289	1,152,685	614,084	**404,474**	**903,579**
	11 mos.	2,070	37,391,067	20,010,093	64,786,264	7,048,212	10,972,847	948,016	25,197,280	47,715,667	73.7	17,070,597	13,363,300	7,587,847	5,115,599	10,764,258
New York Connecting	Nov.	20	218,432	.....	231,795	7,988	6,843	.....	27,650	43,528	18.8	188,267	154,347	118,573	119,860	118,573
	11 mos.	20	2,363,690	.....	2,488,217	131,711	77,930	.....	354,177	574,703	23.1	1,913,514	1,539,534	1,154,800	1,129,189	1,154,800
New York, Ontario & Western	Nov.	567	608,701	5,001	657,450	68,917	125,127	11,571	268,237	496,103	75.5	161,347	146,347	105,925	16,811	130,793
	11 mos.	567	6,833,160	368,618	7,750,615	866,018	1,367,471	126,051	3,268,059	5,903,484	76.2	1,847,131	1,468,078	1,062,332	1,038,498	1,322,598
Norfolk & Western	Nov.	2,166	7,198,535	144,658	7,559,739	765,735	1,181,350	118,881	1,544,521	3,742,698	49.5	3,817,041	2,886,100	3,162,673	2,035,631	3,507,859
	11 mos.	2,168	67,154,191	1,638,223	71,115,628	7,924,282	13,350,375	1,315,550	16,359,355	40,936,686	57.6	30,178,942	22,264,750	24,525,959	20,494,968	28,304,463
Norfolk Southern	Nov.	883	323,940	7,473	346,801	75,505	52,801	21,955	142,938	314,763	90.8	32,038	24,124	3,903	409	12,515
	11 mos.	927	4,005,782	110,784	4,319,182	802,991	585,656	239,219	1,628,560	3,451,139	79.9	868,043	599,455	314,920	480,005	415,354
Northern Pacific	Nov.	6,722	4,256,882	261,063	4,957,693	374,514	1,042,677	144,169	1,757,332	3,571,563	72.	1,386,130	919,161	1,259,880	647,740	1,526,370
	11 mos.	6,725	41,812,047	3,167,242	49,587,150	5,876,135	11,394,269	1,708,251	18,851,987	41,113,233	82.9	8,473,917	3,439,753	6,494,366	6,970,598	9,478,091
Northwestern Pacific	Nov.	362	160,237	71,431	263,367	32,322	52,412	3,872	154,519	257,010	97.6	6,357	15,013	2,567	—41,232	18,986
	11 mos.	374	1,833,559	842,452	3,070,344	406,488	545,714	44,868	1,699,089	2,849,686	92.8	220,658	74,554	—32,672	12,764	129,868
Oklahoma City-Ada-Atoka	Nov.	132	34,579	348	36,810	6,307	1,899	734	11,622	22,341	60.7	14,469	12,301	4,054	—4,330	4,061
	11 mos.	132	366,388	3,717	394,057	83,465	22,189	8,602	120,751	250,593	63.6	143,464	122,249	41,987	—9,548	42,076
Pennsylvania Railroad	Nov.	10,473	23,681,765	4,719,816	31,601,045	2,770,717	6,176,990	587,385	11,021,098	22,379,685	70.8	9,221,360	7,264,379	6,528,962	5,029,781	8,377,131
	11 mos.	10,473	249,014,711	54,121,816	335,770,750	30,063,829	63,170,794	6,561,681	120,037,676	239,398,123	71.3	96,372,627	72,175,155	64,001,055	58,760,220	83,497,644
Long Island	Nov.	396	457,201	1,257,981	1,804,652	185,256	365,336	24,868	884,789	1,524,970	84.5	279,682	112,744	—62,097	118,731	29,035
	11 mos.	396	5,231,128	15,582,611	21,837,693	1,903,053	3,880,621	211,839	10,232,719	16,869,849	77.3	4,967,844	2,368,736	458,571	2,058,383	1,463,168
Pennsylvania-Reading Seashore Lines	Nov.	413	249,849	90,906	360,391	46,135	51,921	6,545	242,112	375,923	104.3	—15,532	—73,666	—148,126	—147,106	—138,476
	11 mos.	413	2,535,650	2,515,276	5,314,528	592,104	895,226	94,268	3,171,816	5,062,438	95.3	252,090	—643,678	—1,588,329	—1,677,489	—1,459,043
Pere Marquette	Nov.	2,123	2,444,605	45,366	2,655,456	263,249	500,827	59,222	887,580	1,805,232	68.0	850,224	715,355	577,132	52,117	792,101
	11 mos.	2,128	23,639,204	680,821	25,797,025	2,873,023	5,458,014	684,393	9,256,336	19,308,261	74.8	6,488,764	5,353,934	4,181,983	2,489,785	6,549,491
Pittsburg & Shawmut	Nov.	101	38,386	371	39,577	13,861	13,225	1,510	13,850	46,037	116.3	—6,460	—6,925	—3,537	6,543	2,533
	11 mos.	101	504,613	4,135	517,402	116,318	170,908	17,213	180,268	517,602	100.0	—200	—2,330	31,681	100,403	107,323
Pittsburgh & West Virginia	Nov.	138	240,105	.....	256,115	27,877	61,737	15,399	51,394	176,612	69.0	79,503	57,287	89,545	53,684	111,658
	11 mos.	138	2,572,599	.....	2,718,226	291,554	627,165	151,496	561,211	1,860,846	68.5	857,380	648,328	923,239	782,995	1,185,236
Pittsburg, Shawmut & Northern	Nov.	190	63,813	35	65,242	13,410	14,504	1,326	26,439	62,645	96.0	2,597	469	—620	5,438	1,935
	11 mos.	190	816,432	1,350	833,552	182,050	177,539	14,983	324,260	769,377	92.3	64,175	40,209	—9,322	—62,135	19,884
Reading	Nov.	1,459	3,636,524	280,500	4,126,658	250,699	653,539	75,657	1,655,353	2,791,386	67.6	1,335,272	1,100,157	1,179,936	970,543	1,449,872
	11 mos.	1,459	41,662,626	2,743,779	46,781,592	3,572,955	8,015,935	833,177	18,264,681	32,851,665	70.2	13,929,927	10,631,094	11,133,346	11,773,322	14,002,361
Richmond, Fredericksburg & Potomac	Nov.	117	262,012	108,760	494,913	71,215	106,599	8,115	204,238	428,406	86.6	66,507	43,862	14,467	—2,074	22,652
	11 mos.	117	3,132,368	1,489,647	5,884,509	630,295	1,337,469	94,626	2,473,782	4,952,719	84.2	931,790	653,209	284,806	311,791	583,540
Rutland	Nov.	407	174,022	22,203	261,226	39,921	53,761	10,126	137,351	255,061	97.6	6,165	—13,537	—10,998	—21,160	629
	11 mos.	407	1,977,502	355,260	2,965,016	509,445	606,013	118,580	1,488,780	2,883,984	97.3	81,032	—135,325	—125,631	—22,509	—1,106
St. Louis-San Francisco	Nov.	4,929	2,993,913	215,081	3,503,781	593,526	884,675	102,579	1,318,532	3,022,841	86.3	480,940	248,749	225,303	—81,129	482,219
	11 mos.	4,984	31,373,292	2,379,748	37,106,866	6,748,517	9,314,742	1,118,954	14,027,131	32,674,420	88.1	4,432,446	1,828,616	1,723,779	2,984,104	4,576,365
Ft. Worth & Rio Grande	Nov.	233	27,963	1,555	35,546	14,701	10,419	2,785	24,869	56,279	158.3	—20,733	—21,863	—26,765	—21,521	—23,987
	11 mos.	233	323,770	13,374	405,736	131,004	110,314	27,067	258,279	558,187	137.6	—152,451	—191,120	—241,248	—242,708	—210,307
St. Louis, San Francisco & Texas	Nov.	261	94,173	637	98,535	37,177	19,230	4,760	44,089	112,632	114.3	—14,097	—16,541	—43,639	—59,535	—37,403
	11 mos.	261	961,048	6,144	1,008,566	366,552	193,324	54,421	441,294	1,125,639	111.6	—117,073	—156,453	—429,874	—473,018	—365,246
St. Louis Southwestern Lines	Nov.	1,778	1,290,571	18,293	1,365,564	131,814	206,222	74,457	446,818	926,568	67.9	438,996	375,925	274,483	138,453	325,662
	11 mos.	1,784	13,509,418	184,970	14,318,234	1,595,196	1,975,138	795,600	4,713,560	9,811,067	68.5	4,507,167	3,699,739	2,293,825	1,949,124	2,865,119
San Diego & Arizona Eastern	Nov.	145	17,750	2,094	23,223	15,104	6,140	1,747	18,739	47,110	202.9	—23,887	—28,949	—27,081	—18,169	—24,619
	11 mos.	145	303,334	60,386	413,090	128,290	75,730	20,182	217,618	499,117	120.8	—86,027	—127,621	—113,708	—51,932	—87,809

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C.T.C. AVOIDS A LONG DELAY

The dispatcher had planned to move a westbound freight train to "A" for a meet with a passenger train but a "hot box" delayed it at "B". As this section of the railroad was equipped with "Union" Centralized Traffic Control, it was possible quickly to change the meeting point to "B" without delay to either train. "By a few flips of the levers a long delay was avoided and a move made which could not have been handled by train order," says the Chief Dispatcher in describing the incident. Under the previous operation with train orders, "B" had been a blind siding.

There are no blind sidings where "Union" C.T.C. is used as the system provides the equivalent of an operator at each end of every siding. This is but one of the major reasons why C.T.C. provides for expedited train movements and savings which make it a self-liquidating investment. » » » » » » »

1032

1881 **Union Switch & Signal Co.** 1936

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

Revenues and Expenses of Railways

MONTH OF NOVEMBER AND ELEVEN MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: After depr.& retir. 1935	After depr.& retir. 1934	Before depr.& ret.
Seaboard Air Line	Nov.	4,307	$2,324,569	$275,714	$2,852,969	$575,393	$643,566	$148,434	$1,085,929	$2,620,857	91.9	$232,112	$111,949	$39,221	$113,221	$196,796
	11 mos.	4,307	24,346,908	3,174,492	30,826,135	4,820,637	6,742,771	1,557,948	11,861,781	26,566,089	86.2	4,260,046	2,075,358	1,329,169	1,387,805	3,050,194
Southern Ry.	Nov.	6,644	6,087,467	655,255	7,428,082	845,252	1,272,121	136,318	2,612,207	5,153,773	69.4	2,274,309	1,822,302	1,550,348	848,133	1,834,961
	11 mos.	6,644	61,071,954	7,451,102	75,619,084	9,466,471	14,074,324	1,587,346	27,675,428	2,749,305	74.1	19,580,259	14,822,861	12,498,759	10,634,756	15,326,407
Alabama Great Southern	Nov.	315	388,489	42,769	469,694	72,623	102,861	11,198	163,137	368,418	78.4	101,276	62,601	39,955	25,766	63,755
	11 mos.	315	3,950,551	492,033	4,830,642	962,531	1,131,071	122,773	1,616,589	4,033,726	83.5	796,916	497,791	353,233	566,029	587,838
Cinn., New Orleans & Texas Pac.	Nov.	336	1,091,392	61,262	1,223,129	148,834	219,050	25,531	292,485	731,791	59.8	491,338	392,081	371,204	162,388	420,534
	11 mos.	336	10,951,909	722,963	12,402,318	1,830,457	2,252,015	281,998	3,141,654	7,972,885	64.3	4,429,433	3,655,092	3,334,810	2,916,834	3,797,093
Georgia Southern & Florida	Nov.	397	127,462	24,309	169,402	31,734	32,282	1,609	71,950	141,990	83.8	27,412	14,931	15,133	—3,064	22,392
	11 mos.	397	1,285,830	278,533	1,757,461	346,477	366,201	18,969	790,892	1,574,656	89.6	182,805	43,933	36,539	52,695	110,102
New Orleans & Northeastern	Nov.	204	180,023	16,769	212,364	30,144	32,363	5,485	78,065	156,418	73.7	55,946	31,756	14,207	9,551	20,428
	11 mos.	204	1,798,086	192,580	2,156,362	302,763	378,404	61,084	731,039	1,586,320	73.6	570,042	317,330	173,608	51,710	237,549
Northern Alabama	Nov.	99	40,609	1,707	44,271	15,414	1,245	1,052	15,843	35,380	79.9	8,891	5,118	—4,201	—2,665	—4,122
	11 mos.	99	466,553	18,992	506,951	113,054	14,667	12,339	178,249	337,713	66.6	169,238	127,990	6,616	17,141	7,394
Southern Pacific	Nov.	8,785	8,246,624	1,388,974	10,607,544	923,998	1,702,961	274,230	4,000,762	7,672,043	72.3	2,935,501	2,423,334	2,081,393	1,415,251	2,562,532
	11 mos.	8,788	86,412,369	16,084,024	113,558,662	9,841,532	19,231,944	3,178,872	42,262,096	82,803,657	72.9	30,755,005	21,671,552	17,158,341	16,211,863	22,267,096
So. Pac. Steamship Lines	Nov.	....	384,573	6,734	414,225	13,471	88,067	16,443	278,532	414,555	100.1	—330	—1,594	—12,589	—72,836	22,666
	11 mos.	....	4,086,091	146,421	4,369,352	165,181	967,515	177,733	3,321,616	4,831,168	110.6	—461,816	—471,583	—500,274	—736,079	—114,633
Texas & New Orleans	Nov.	4,429	2,766,367	227,108	3,354,438	383,727	558,624	112,332	1,093,659	2,362,127	70.4	992,311	794,549	650,416	296,119	790,615
	11 mos.	4,437	25,027,279	2,594,463	31,471,089	4,328,090	6,033,452	1,246,108	11,567,758	25,607,228	81.4	5,863,861	3,575,531	1,569,938	—170,418	3,100,068
Spokane, Portland & Seattle	Nov.	552	472,373	31,971	540,549	38,285	69,426	5,914	180,411	310,321	57.4	230,228	181,694	145,494	45,607	158,216
	11 mos.	552	4,865,313	451,782	5,708,287	465,560	714,428	68,763	1,818,610	3,216,295	56.3	2,491,992	1,939,050	1,630,873	1,343,312	1,784,077
Tennessee Central	Nov.	286	182,754	4,615	200,232	43,919	29,256	5,349	63,905	151,736	75.8	48,496	43,222	31,033	25,117	36,664
	11 mos.	286	1,881,268	57,585	2,060,036	353,661	294,703	55,201	683,443	1,472,786	71.5	587,250	526,395	388,019	312,895	450,226
Texas & Pacific	Nov.	1,949	1,710,214	169,598	2,121,030	217,446	340,338	68,250	613,991	1,368,839	64.5	752,191	637,786	537,454	379,225	638,374
	11 mos.	1,949	16,931,749	1,895,852	21,371,550	2,231,876	3,734,548	760,793	6,479,103	14,602,550	68.3	6,769,000	5,600,146	4,491,072	4,342,573	5,600,999
Texas Mexican	Nov.	162	85,208	611	96,049	15,459	15,275	3,293	34,729	75,953	79.1	20,096	15,921	10,803	23,148	12,531
	11 mos.	162	976,863	4,972	1,099,874	164,033	162,152	35,598	367,748	802,539	73.0	297,335	251,810	182,778	121,764	203,794
Toledo, Peoria & Western	Nov.	239	177,728	16	180,050	34,630	10,255	17,461	45,219	117,119	65.0	62,931	53,926	37,196	—5,538	39,631
	11 mos.	239	1,656,717	165	1,682,567	443,981	113,778	170,806	435,313	1,261,408	75.0	421,159	359,139	193,388	124,850	219,006
Union Pacific	Nov.	3,589	5,554,187	471,159	6,572,674	421,955	1,297,276	130,136	2,066,825	4,300,963	65.4	2,271,711	1,940,668	1,527,067	778,732	1,874,121
	11 mos.	3,593	54,029,014	5,625,036	65,514,435	7,719,574	14,018,007	1,449,325	21,238,582	48,165,211	73.5	17,349,224	12,766,516	9,413,415	10,665,487	13,129,856
Oregon Shore Line	Nov.	2,505	2,169,256	117,599	2,423,278	188,769	319,004	35,419	764,576	1,423,382	58.7	999,896	829,932	708,847	256,279	792,821
	11 mos.	2,504	19,443,483	1,355,509	22,285,107	2,626,684	3,422,718	405,322	7,351,835	14,933,878	67.0	7,351,229	5,049,705	3,955,316	2,945,304	4,874,777
Ore., Washington R. R. & Nav. Co.	Nov.	2,248	1,238,595	116,975	1,480,668	406,785	183,750	51,120	577,036	1,315,577	88.9	165,091	83,816	—18,915	29,890	23,735
	11 mos.	2,267	12,517,977	1,289,043	15,279,014	2,637,385	2,082,205	587,629	5,963,269	12,169,120	79.6	3,109,894	1,800,375	620,156	525,461	1,143,155
Los Angeles & Salt Lake	Nov	1,249	1,284,230	151,395	1,563,776	125,969	194,540	59,663	553,898	1,033,187	66.1	530,589	431,276	322,467	63,200	375,449
	11 mos.	1,239	12,320,997	1,854,199	15,508,080	1,685,926	2,309,021	582,798	4,881,949	10,448,539	67.4	5,059,541	3,861,964	2,643,059	2,833,188	3,282,944
St. Joseph & Grand Island	Nov.	258	257,384	2,705	265,911	22,800	21,946	2,206	82,193	141,071	53.1	124,840	100,873	64,080	—38,027	67,725
	11 mos.	258	2,595,308	27,841	2,704,128	440,869	251,582	26,592	833,815	1,674,332	61.9	1,029,796	906,984	565,887	486,187	607,527
Utah	Nov.	111	155,846	.....	156,209	17,942	26,272	439	33,697	82,734	53.0	73,475	63,102	54,645	17,510	61,546
	11 mos.	111	929,841	.....	932,446	142,454	231,654	5,504	209,559	641,719	68.8	290,727	189,868	148,480	—80,539	224,341
Virginian	Nov.	619	1,199,124	2,906	1,252,177	91,366	252,331	17,478	214,615	575,005	45.9	677,172	522,220	577,223	652,170	662,203
	11 mos.	619	13,778,002	37,180	14,358,665	1,075,894	2,552,925	192,317	2,498,160	6,585,788	45.9	7,772,877	6,042,847	6,545,938	6,145,347	7,480,717
Wabash	Nov.	2,447	3,133,913	170,265	3,525,776	364,271	557,369	135,698	1,332,936	2,547,008	72.2	978,768	843,902	563,346	398,974	744,238
	11 mos.	2,447	33,235,340	1,994,022	37,744,754	4,442,246	6,405,541	1,533,874	14,493,489	28,617,011	75.8	9,127,743	7,639,197	4,372,821	3,923,796	6,371,050
Ann Arbor	Nov.	293	346,096	8,546	364,067	27,923	67,847	11,866	169,888	289,954	79.6	74,113	60,652	37,357	30,427	57,574
	11 mos.	293	3,474,352	35,677	3,630,624	302,988	763,548	127,654	1,457,863	2,793,796	77.0	836,828	687,162	463,568	345,428	695,316
Western Maryland	Nov.	883	1,232,017	4,844	1,268,625	193,779	240,452	36,328	307,176	823,541	64.9	445,084	370,084	387,484	325,965	473,705
	11 mos.	883	13,035,105	73,232	13,511,419	1,839,669	3,195,124	400,086	3,408,016	9,416,777	69.7	4,094,642	3,384,642	3,665,004	3,730,287	4,724,203
Western Pacific	Nov.	1,213	1,245,174	22,484	1,291,518	160,493	199,841	54,130	483,873	941,314	72.9	350,204	305,084	212,235	9,186	263,818
	11 mos.	1,213	11,204,449	350,618	11,864,716	2,241,408	1,969,920	611,823	4,566,262	9,764,693	82.3	2,100,023	1,470,609	921,249	1,188,552	1,435,922
Wheeling & Lake Erie	Nov.	511	1,080,805	1,104	1,144,605	125,730	290,888	31,567	325,181	801,467	70.0	343,138	268,553	277,321	130,119	378,930
	11 mos.	511	11,493,681	15,041	12,240,038	1,694,246	3,190,044	333,657	3,578,075	9,107,519	74.4	3,132,519	2,215,563	2,244,236	1,417,084	3,368,419
Wichita Falls & Southern	Nov.	203	42,264	152	45,517	7,778	6,104	1,872	19,295	37,334	82.02	8,183	5,920	3,439	—3,950	5,901
	11 mos.	203	464,816	542	513,120	88,232	72,549	19,662	161,820	376,699	73.41	136,421	111,113	81,664	43,777	108,812